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SESSIONAL PAPERS

VOL. XLVI.—PART X.

THIRD SESSION

OF THE

THIRTEENTH LEGISLATURE

OF THE

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No. 5 Report of the Inspector of Division Courts for the year 1913. Presented to the Legislature, March 11th, 1914. *Printed.*

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No. 8 Report of the Provincial Municipal Auditor for the year 1913. Presented to the Legislature, April 16th, 1914. *Printed.*

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No. 20 Report of the Registrar-General upon Births, Marriages and Deaths for the year 1913. Presented to the Legislature, March 27th, 1913. *Printed.*

No. 21 Report of the Provincial Board of Health for the year 1913. Presented to the Legislature, March 16th, 1914. *Printed.*

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No. 23 Report upon the Hospitals for Idiots and Epileptics at Orillia and Woodstock for the year 1913. Presented to the Legislature, April 28th, 1914. *Printed.*

No. 24 Report upon the Feeble-minded of the Province for the year 1913. Presented to the Legislature, April 23rd, 1914. *Printed.*

No. 25 Report upon the Hospitals and Charities for the year 1913. Presented to the Legislature, April 14th, 1914. *Printed.*

No. 26 Report upon the Prisons and Reformatories of the Province for the year 1913. Presented to the Legislature, April 21st, 1914. *Printed.*

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No. 33 The Fruits of Ontario. Presented to the Legislature, April 9th, 1914. *Printed.*

No. 34 Report of the Vegetable Growers' Association for the year 1913. Presented to the Legislature, April 16th, 1914. *Printed.*

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No. 40 Report of the Farmer's Institutes for the year 1913. Presented to the Legislature, April 9th, 1914. *Printed.*

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No. 42 Report of the Agricultural Societies of the Province for the year 1913. Presented to the Legislature, April 9th, 1914. *Printed.*

No. 43 Report of the Horticultural Societies of the Province for the year 1913. Presented to the Legislature, April 22nd, 1914. *Printed.*

No. 44 Report of the Fruit Growers' Association for the year 1913. Presented to the Legislature, April 22nd, 1914. *Printed.*

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No. 50 Return from the Records of the Bye-elections held on the second day of June, the fourteenth day of July, the eighth day of September, and the twenty-seventh day of November, 1913. Presented to the Legislature, February 18th, 1914. *Printed.*

No. 51 Report of the Provincial Archivist for the year 1913. Presented to the Legislature, April 15th, 1914. *Printed.*

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No. 53 Final Report of Commissioner on Laws relating to the Liability of Employers to make Compensation to their Employees. Presented to the Legislature, March 27th, 1914. *Printed.*

No. 54 Statements of Provincial Auditor for the year 1912-13. Presented to the Legislature, March 19th, 1914. *Printed.*

No. 55 Copies of Orders-in-Council and Regulations under section 27 of the Department of Education Act. Presented to the Legislature, February 25th, 1914. *Printed.*

No. 56 Bulletin of the Ontario Hospitals for the Insane. Presented to the Legislature, February 27th, 1914. *Printed.*

No. 57 Regulations respecting Rondeau Provincial Park, 1913. Presented to the Legislature, February 27th, 1914. *Printed.*

No. 58 Return to an Order of the House of the 27th March, 1913, for a Return showing:—1. Copies of all correspondence between the Minister of Public Works or any other member of the Government or any official thereof, and any person or persons relating to the floods on the Grand River or any other river in the Province during the years 1908, 1909, 1910, 1911, 1912. 2. Copies of all petitions received during the said years by the Government or any Minister of the Government from any person or persons relating to the floods on the Grand River or any other river in the Province, or requesting the Government to take action towards the prevention of floods. 3. Copies of all reports made by any engineer or engineers employed on behalf of the Government or on behalf of the Hydro-Electric Power Commission, for the purpose of investigating the floods on the Grand River or any other river in the Province, or the means of preventing or mitigating such floods or of conserving and regulating the flow of such rivers or investigating the electrical power potentialities of such rivers. Presented to the Legislature, February 27th, 1914. Mr. *Marshall.* *Not Printed.*

No. 59 Return to an Order of the House of the 22nd April, 1913, for a Return showing:—Copies of all correspondence between the Attorney-General or any other member of the Government or any official of the Government and any other person or persons relating to:—1. The prosecution of one Goodman, formerly Chief of Police at New Liskeard on November 12th last, for an offence against the Game Laws. 2. The conduct of one McKelvie, an overseer of the Game and Fisheries Department at

New Liskeard, Ont., or the dismissal of the said McKelvie from his position. 3. The prosecution of one Eli Tibbs in November, 1912, for illegal possession of furs. 4. The prosecution of any party or parties for illegal possession of furs seized by the said McKelvie from one Angus Wabi. Presented to the Legislature, February 27th, 1914. Mr. *Elliott.* *Not Printed.*

No. 60 A Return to an Order of the House of the 15th April, 1913, for a Return showing:—1. In detail the persons to whom the sum of $19,946.18, appearing an page 323 of the Public Accounts, 1912, was advanced by N. B. Colcock, and the purposes for which the same was advanced. 2. In detail the persons to whom the sum of $11,060.85, appearing on page 372 of the Public Accounts was paid by N. B. Colcock, and the purposes for which the same was paid. Presented to the Legislature, March 3rd, 1914. Mr. *Anderson (Bruce).* *Not Printed.*

No. 61 Copies of Orders-in-Council authorizing payments out of Surrogate of the Counties of York and Simcoe in accordance with the provisions of the Surrogate Courts Act. Presented to the Legislature, March 10th, 1914. *Not Printed.*

No. 62 Return to an Order of the House of the 11th March, 1913, for a Return showing for what Municipalities was the Report of the Lieutenant-Governor in Council in favour of, or against, building an electric railway for such Municipalities. Presented to the Legislature, March 16th, 1914. Mr. *Elliott.* *Printed.*

No. 63 Copies of Orders in Council in accordance with the provisions of sec. 2, cap. 2, 2 George V, An Act for raising money on the Credit of the Consolidated Revenue Fund of Ontario. Presented to the Legislature, March 16th, 1914. *Not Printed.*

No. 64 Return to an Order of the House of the 2nd March, 1914, for a Return showing:—1. What securities have been sold by the Province since October 31st, 1912. 2. What was the date of the sales. 3. What are the names of the purchasers. 4. What are the prices at which such securities were sold. Presented to the Legislature, March 16th, 1914. Mr. *Sinclair.* *Not Printed.*

No. 65 Return to an Order of the House of the 27th February, 1914, for a Return showing:—1. What timber limits, or areas, have been sold by the Government since the first day of January, 1913, and the total area of each. 2. The price at which each such limit, or area, was sold. 3. The names of the respective purchasers and if any were sold at public auction. 4. And if any were so sold at auction, which limit or area was so sold, and the dates on which the several sales took place. Presented to the Legislature, March 18th, 1914. Mr. *Mageau.* *Not Printed.*

No. 66 Return to an Order of the House of the 6th March, 1914, for a Return showing:—1. Application for license of William Smuck of the Township of Bayham in the electoral district of East Elgin for the year 1913-14; the granting thereof; the withdrawal of such application; all correspondence between the Department and any officer thereof and the said Smuck, or the License Inspector or other residents of East Elgin in reference thereto. 2. The application of the said Smuck to be appointed License Inspector for East Elgin, and all protests against his appointment. 3. All letters, reports or communications in reference to the health or work by the former License Inspector, Mr. W. R. Andrews. 4. The resignation of the former License Inspector or Notice of the Termination of his employment. 5. All protests or complaints during the years 1912, 1913 and 1914 from residents of Aylmer or other citizens of East Elgin in reference to the lack of enforcement of the License Law and the conduct of the hotels in Aylmer or of license officials of East Elgin. Presented to the Legislature, March 27th, 1914. Mr. *Rowell. Not Printed.*

No. 67 Minutes of the Proceedings in Conference of the Representatives of the Provinces, October, 1913. Presented to the Legislature, March 19th, 1914. *Printed.*

No. 68 Return to an Order of the House of the 2nd March, 1914, for a Return showing:—1. What amount was received by the Government from Messrs. Taylor, Scott & Co. for the work done by prisoners from Central Prison under its contract with Taylor, Scott & Co., dated 1st September, 1905, for each year during which the contract was in force. 2. How long was the contract in force. 3. What amounts were paid by the Government for debt, damages or costs respectively in connection with or arising out of the said contract. 4. To whom were such amounts paid. 5. Was the agreement between Taylor, Scott & Co. and the Government changed after the agreement had been submitted to the House and approved by it. 6. If it were changed, were such changes embodied in an agreement in writing between the parties. 7. If it was changed, was such change or modified agreement submitted to the House for approval. Presented to the Legislature, March 23rd, 1914. Mr. *Bowman. Not Printed.*

No. 69 Return to an Order of the House of the 18th March, 1914, for a Return showing:—1. The names of the license holders under the Liquor License Act in the City of Toronto for the year from 1st May, 1908, to 1st May, 1909, and the place or places of business in which each license holder carried on business. 2. The names of those license holders under the said Act, and the location of the premises in which they carried on business, whose licenses were cut off or were not renewed in the year

1909 in Toronto. 3. The names of the license holders in Toronto whose licenses were transferred with the approval of the Board of License Commissioners in the years 1909, 1910, 1911, 1912 and 1913; the places in which they carried on business; the names of the persons to whom licenses were transferred; and the locations of the premises in which the persons to whom the licenses were transferred carried on business. Presented to the Legislature, March 23rd, 1914. Mr. *Proudfoot. Not Printed.*

No. 70 Return to an Order of the House of the 26th March, 1913, for a Return showing:—1. All the correspondence (including telegrams) passing between the Prime Minister, the Attorney-General, the Minister of Crown Lands or any other member or official of the Government and the Counsel or Solicitors for Keewatin Power Company, or the Counsel or Solicitors for the Hudson's Bay Company with reference to the action brought by these Companies against the Town of Kenora for a declaration that they and not the Crown were the owners of the water power on the East Branch of the Winnipeg River, and that the lease from the Crown to the Town of Kenora was invalid. 2. A copy of the telegram (if any) sent by the Prime Minister to the Counsel for the Keewatin Power Company advising him that the Government did not desire to defend its own title to the water power or be added as a party to the action. 3. All correspondence (including telegrams passing between the Town of Kenora or the Counsel or Solicitors for the Town of Kenora, and the Government or any Minister or official thereof with reference to these actions, and particularly all communications requesting the Crown to take part in the defence of its own title to the water power. 4. Copies of all correspondence (including telegrams) passing between the Prime Minister, Attorney-General, the Minister of Crown Lands or any other Minister or official of the Government, and Mr. W. H. Hearst, acting as Counsel for the Government, in reference to these actions. 5. Copy of the judgments of the Trial Judge and the Court of Appeal. Presented to the Legislature, March 24th, 1914. Mr. *Rowell. Not Printed.*

No. 71 Revised Rules, Orders and Forms of the Division Courts of the Province of Ontario. Presented to the Legislature March 26th, 1914. *Printed.*

No. 72 Correspondence and Papers relating to timber in the Algonquin Park Forest Reserve. Presented to the Legislature, March 27th, 1914. *Printed.*

No. 73 Whitson's Report upon Road Construction in Northern Ontario. Presented to the Legislature, March 30th, 1914. *Printed.*

No. 74 Return to an Order of the House of the 27th February, 1914, for a Return showing:—1. The names of the tenderers for the supply of coal for Government Institutions, in Toronto, during the years 1910, 1911, 1912 and 1913, respectively. 2. The amount of each tender for each of such years. 3. The names of the contractor or contractors for each of such years. 4. The amount of coal supplied under each contract during each year. 5. The prices at which the coal was purchased. Presented to the Legislature, March 31st, 1914. Mr. *Bowman*. *Not Printed.*

No. 75 Return to an Order of the House of the 27th February for a Return showing:—1. What buildings have been erected by the Province at the Prison Farm at Guelph. 2. What has been the total cost to the Province of each building. 3. Were any of these buildings built by prison labour in whole or in part. 4. If so, what buildings, and what class of prison labour was employed. 5. And if the statement of cost makes any allowance for the prison labour employed, if any. Presented to the Legislature, March 31st, 1914. Mr. *Atkinson*. *Not Printed.*

No. 76 Return to an Order of the House of the 18th March, 1914, for a Return showing:—1. Whether the Minister of Agriculture or any officer or official of his Department, or the Minister of Education or any officer or official of his Department, communicated with the district representative of Agriculture within the County of Welland with reference to his attitude to the Canada Temperance Act or the vote to be taken thereon on the 29th January last. 2. And if any communication was made, was such communication verbal or in writing. 3. And who was the officer making the same, and what was the date thereof. Presented to the Legislature, March 31st, 1914. *Not Printed.*

No. 77 Return to an Order of the House of the 27th March, 1914, for a Return showing:—1. The conditions upon which grants are made to rural public schools. 2. Were the grants to the rural public schools of Ontario in 1913 less per school in 1913 than they were in the year 1912. If so, how much. 3. Has the Department of Education notified the Boards of Public School Trustees of Rural Schools, or any of them, that they cannot pay the grant provided for by the regulations. 4. If such notice has been given, upon what their ground for refusing to pay the grants. 5. Has the Department of Education notified the School Boards of Rural Schools, or any of them, that the grants this year would be cut down 28 *per cent.*, or any amount whatever. If so, how much. Presented to the Legislature, April 1st, 1914. Mr. *Kohler*. *Not Printed.*

No. 78 Return to an Order of the House of the 30th March, 1914, for a Return showing:—1. What was the estimated cost of the heating plant for the Toronto University. 2. What was the actual cost of the plant when fully completed. 3. Has the total amount

been paid; if not, what amount, if any, is held in reserve. 4. And if the heating plant is giving satisfaction. Presented to the Legislature, April 1st, 1914. Mr. *Bowman*. *Not Printed.*

No. 79 Return to an Order of the House of the 1st April, 1914, for a Return of copies of all correspondence, resolutions or other documents received by, or on behalf of any Member of the Government in any way relating to the Hamilton Athletic Association regarding which certain legislation is sought for during the current Session. Presented to the Legislature, April 2nd, 1914. Mr. *Studholme*. *Not Printed.*

No. 80 Return to an Order of the House of the 1st April, 1914, for a Return showing:—1. What sum of money has Sir William Meredith, the Chief Justice of Ontario, received from the Government in addition to his salary as Chief Justice, since January 1st, 1909, to date. 2. In what capacity did Chief Justice Sir William Meredith receive such sum or sums, and what amount was received with respect to each capacity in which he received any sum or sums as aforesaid. Presented to the Legislature, April 2nd, 1914. Mr. *Anderson* (*Bruce*). *Not Printed.*

No. 81 Return to an Order of the House of the 27th March, 1914, for a Return showing:—1. If there was a deficit in the financial operations of the Provincial University for the fiscal year ending 1912. If so, how much. 2. Was there a deficit in the financial operations of the Provincial University for the fiscal year 1913. If so, how much. 3. If there have been deficits during the years 1912-13, or either of them, how have these deficits been provided for. 4. What is the estimated expenditure of the Provincial University for the current fiscal year. 5. What is the estimated revenue of the University for the current fiscal year. Presented to the Legislature, April 2nd, 1914. Mr. *Marshall*. *Not Printed.*

No. 82 Return to an Order of the House of the 27th March, 1914, for a Return showing:—1. If there was an option given to the firm of Murray, Mather & Co. to purchase certain Government securities during the calendar year 1913. 2. If so, what was the date of the option, and what were the character, amount and price of the securities covered by it. 3. Was such option, if any, exercised; and if so, to what extent. Presented to the Legislature, April 3rd, 1914. Mr. *Sinclair*. *Not Printed.*

No. 83 Return to an Order of the House of the 27th March, 1914, for a Return showing:—1. Copy of evidence of Mr. Taylor, of Messrs. Taylor, Scott & Co., given before the Dominion Penitentiary Investigation Commission, of which Mr. G. M. Macdonald, K.C., of Kingston, is Chairman, and which was taken in Shorthand by a Stenographer provided by Dr. Gilmour,

Warden of the Central Prison, such evidence or a copy thereof being now in the custody or control of the Provincial Secretary, or of some of the officers or officials of his Department, or of the institutions under the control of his Department. 2. Copies of all correspondence passing between the Provincial Secretary, or any officer or official of his Department, or any officer or official of any of the institutions under the charge of his Department, and Mr. Joseph Downey, in reference to the said evidence or the production thereof. Presented to the Legislature, April 3rd, 1914. Mr. *Bowman*. *Not Printed.*

No. 84 Report of the Good Roads Commission. Presented to the Legislature, April 7th, 1914. *Printed.*

No. 85 Copy of an Order-in-Council approved by His Honour the Lieutenant-Governor, under the provisions of 552 of sec. 18 of the Municipal Drainage Act. Presented to the Legislature, April 8th, 1914. *Printed.*

No. 86 Return to an Order of the House of the 2nd March, 1913, for a Return showing:—1. Copies of all correspondence between the Minister of Education or any other member or official of the Government and any other person or persons during 1910, 1911 and 1912, relating to the investigation made by Dr. Merchant of the bi-lingual or French-English Schools in Ontario. 2. Copies of all correspondence between the Minister of Education or any other member or official of the Government and any other person or persons during the year 1912, relating to Regulation No. 17. Presented to the Legislature, April 9th, 1914. Mr. *Mageau*. *Not Printed.*

No. 87 Return to an Order of the House of the 7th April, 1914, for a Return showing:—1. How much the Hydro-Electric Power Commission has spent in building the trunk line from Morrisburg to Prescott, and from Morrisburg to Winchester and Chesterville. 2. Did the Hydro-Electric Power Commission enter into an agreement with the New York and Ontario Power Company, or any person on their behalf, for a supply of power for transmission on this line, to be developed at Waddington or elsewhere; and if so, what is the date of such agreement. 3. Was it a term of any such agreement that the Directors of the New York and Ontario Power Company became personally liable if power was not supplied within a certain defined time. 4. Has the Hydro-Electric Power Commission entered into any agreement with the Rapids Power Company for the supply of power; if so, what is the date of such agreement. Presented to the Legislature, April 9th, 1914. *Not Printed.*

No. 88 Coles' Report, Mining Engineer, Timiskaming and Northern Ontario Railway Company. Presented to the Legislature, April 28th, 1914. *Printed.*

No. 89 Return to an Order of the House of the 8th April, 1914, for a Return showing:—1. The number of convictions for intoxication in Local Option Municipalities. 2. Convictions for other offences against Local Option Law during the license year 1912-13. Presented to the Legislature, April 14th, 1914. Mr. *McPherson*. *Not Printed.*

No. 90 Official Regulations for the Government of the Andrew Mercer Reformatory. Presented to the Legislature, April 16th, 1914. *Printed.*

No. 91 Official Regulations for the Government of the Hospitals and Public Charities of Ontario. Presented to the Legislature, April 16th, 1914. *Printed.*

No. 92 Official Regulations for the Government of Common Gaols of Ontario. Presented to the Legislature, April 16th, 1914. *Printed.*

No. 93 Official Regulations for the Government of Industrial Farms in Ontario. Presented to the Legislature, April 16th, 1914. *Printed.*

No. 94 Official Regulations for the Government of the Ontario Reformatory. Presented to the Legislature, April 16th, 1914. *Printed.*

No. 95 Official Regulations of the Ontario Hospitals. Presented to the Legislature, April 17th, 1914. *Printed.*

No. 96 Statement of Statute distribution for 1913. Presented to the Legislature, April 21st, 1914. *Not Printed.*

No. 97 Return to an Order of the House of the 27th March, 1913, for a Return showing:—Copies of all Orders in Council passed under Section 8, of the Power Commission Act, as amended by the Power Commissions Act, 1912. Presented to the Legislature, April 21st, 1914. Mr. *Mageau*. *Not Printed.*

No. 98 Return to an Order of the House of the 1st April, 1914, for a Return showing:—1. All the schools in the Province, both public and separate, from which the Government grant has been withheld during the years 1912 and 1913 respectively. 2. The grounds upon which such grants have been withheld from the said schools respectively. 3. The grounds upon which County Councils are required to withhold from schools the moneys raised by taxation from the people. Presented to the Legislature, April 21st, 1914. Mr. *Racine*. *Not Printed.*

No. 99 Return to an Order of the House of the Twenty-first day of April instant for a Return of a Copy of the Letters, or Charter, of the "Ontario Homes Company, Limited," giving the Corporation license to promote a company for the purpose of engaging in the business of the purchase of real estate in manufacturing localities and showing what, if any, returns have been made to the Department and if the company is still doing business. Presented to the Legislature, April 22nd, 1914. Mr. *Studholme. Not Printed.*

No. 100 Return to an Order of the House of the 16th April, 1914, for a Return showing:—The quantity of settlers' effects delivered over the T. & N. O. Railway at New Liskeard and Cochrane, respectively, and carried as such under the regulations of the said Railway, for the financial year ending October 31st, 1913. Presented to the Legislature, April 24th, 1914. Mr. *Atkinson. Not Printed.*

No. 101 Return to an Order of the House of the 17th February, 1913, for a Return of: Copies of all correspondence between Bishop Fallon, of London, and the Provincial Secretary, the Minister of Public Works or any Member of the Government regarding the Bi-lingual Schools in the Province of Ontario, since the first day of May, 1910. Presented to the Legislature, April 24th, 1914. Mr. *Evanturel. Not Printed.*

No. 102 Return to an Order of the House of the 17th February, 1913, for a Return of Copies of all correspondence between Bishop Scollard, of Sault Ste. Marie, and the Government, regarding the Bi-lingual Schools of the Province of Ontario, since the first day of March, 1907. Presented to the Legislature, April 24th, 1914. Mr. *Evanturel. Not Printed.*

No. 103 Return to an Order of the House of the 16th April, 1914, for a Return showing:—1. All correspondence between the Department of Education and any officer or official thereof and the Board of Trustees of the Almonte High School. 2. All correspondence between the Department of Education and any officer or official thereof and any of the teachers in the Almonte High School. 3. All correspondence between the Department of Education and any officer or official thereof and Miss Eade with reference to an application by her for a position in the Almonte High School. Presented to the Legislature, April 28th, 1914. Mr. *Marshall. Not Printed.*

No. 104 Return to an Order of the House of the 21st April, 1914, for a Return showing:—1. The present practice of the Department of Education in regard to the number of text-books authorized for use in each subject in the Course of Studies. 2. The number of text-books authorized for use in the elementary and secondary

schools of Ontario issued since the date of the last return laid before this House, March 20th, 1911, and the methods adopted to keep these books up to the requirements of the schools. 3. The cost to the Province of each of these books in the form of payments to authors, printers and electrotypers. 4. The estimated saving to purchasers of all text-books in elementary and secondary schools on all the books as compared with previous prices of the same. 5. The amount annually paid in royalties by the Department of Education to writers of authorized text-books. 6. The cost to the Province of the preparation, editing, and printing of supplementary readers authorized for use in the schools. 7. The amount paid annually by publishers to any official of the Department of Education on text-books authorized for use in the schools of this Province. 8. What Ontario books have been adopted in other Provinces. Presented to the Legislature, April 28th, 1914. Mr. *Musgrove. Printed.*

ANNUAL REPORT

OF THE

Bee-Keepers' Association

OF THE

PROVINCE OF ONTARIO

1913

(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE, TORONTO)

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO

TORONTO:
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1914

Printed by
WILLIAM BRIGGS,
29-37 Richmond Street West,
TORONTO.

To His Honour SIR JOHN MORISON GIBSON, Knight Commander of the Most Distinguished Order of St. Michael and St. George, a Colonel in the Militia of Canada, etc., etc., etc.,

Lieutenant-Governor of the Province of Ontario.

MAY IT PLEASE YOUR HONOUR:

I have the pleasure to present herewith for the consideration of Your Honour, the Report of the Ontario Bee-keepers' Association for 1913.

Respectfully submitted,

JAMES S. DUFF,

Minister of Agriculture.

Toronto, 1914.

Ontario Bee-keepers' Association.

Officers for 1914.

President—J. L. Byer, Markham.
1st Vice-President—F. W. Krouse, Guelph.
2nd. Vice-President—James Armstrong, Cheapside.
Secretary-Treasurer—Morley Pettit, O.A.C., Guelph.

Directors—District No. 1, R. E. L. Harkness, Irena; District No. 2, A. McTavish, Carleton Place; District No. 3, M. B. Holmes, Athens; District No. 4, R Lowey, Woodrows; District No. 5, W. W. Webster, Little Britain; District No. 6, J. L. Byer, Markham; District No. 7, F. W. Krouse, Guelph; District No. 8, James Armstrong, Cheapside; District No. 9, John Newton, Thamesford; District No. 10, Jacob Haberer, Zurich; District No. 11, Miss Ethel Robson, Denfield; District No. 12, D. Nolan, Newton Robinson; District No. 13, Morley Pettit, O.A.C., Guelph.

Committees:

Revising Committee—H. G. Sibbald, Morley Pettit.
Honey Crop Committee—Messrs. Couse, Craig, Sibbald.
Transportation Committee—J. D. Evans, the President and the Secretary.
Committee on Horticultural Show—Messrs. Nolan, Couse, Grainger, Sibbald and the Secretary.

Representatives to Fair Boards.

Canadian National, Toronto—J. D. Evans, Islington.
Western, London—Miss Ethel Robson, Denfield.
Ottawa—M. B. Holmes, Athens.

Treasurer's Report.

Receipts.		Expenditures.	
Balance on hand 1912	$497 35	Grants to Associations	$323 11
Membership fees	1,061 99	Expenses *re* Convention	94 85
Queen Order Receipts	2,269 36	Bee Journal	1,006 55
Affiliated Societies' dues	135 00	Printing	528 39
Ontario Government Grant ..	700 00	Postage	208 97
C. N. E. Grant	400 00	Queen Order Payments	1,978 75
Honey sales, receipts	476 09	Incidentals	8 01
Ontario Horticultural Exhibition Advertising	100 00	Office supplies	134 42
		Exhibition expenditure	594 74
		Honey sales expenditure	131 83
		Balance on hand	630 17
	$5,639 79		$5,639 79

Examined and found correct
this 18th day of November, 1913
D. F. Cashman,
Auditor.

Denis Nolan,
President.
Morley Pettit,
Secretary-Treasurer.

Ontario Bee-keepers' Association.

The annual meeting of the Ontario Bee-keepers' Association was held in Victoria Hall, in the city of Toronto, on Wednesday, Thursday and Friday, November 19th, 20th and 21st, 1913.

At 9.30 a.m. the President, Mr. Denis Nolan, took the chair and requested the Secretary to read the minutes of the last annual meeting. These minutes were read and adopted.

PRESIDENT'S ADDRESS.

Denis Nolan, Newton Robinson.

The year since the members of this Association last met in Convention has not differed from preceding years, inasmuch as it has brought its pleasant and unpleasant experiences to us. Some of our members have reaped a rich harvest of nature's best sweet, while others report a poor season.

We regret the sad fact that some of our most active and highly esteemed members have received the call to their eternal reward, and that their voices will no longer be heard at our meetings.

The past winter and spring were favorable, the bees in good condition at the beginning of the white honey flow, and then over a large portion of the Province beautiful weather conditions prevailed for gathering nectar for weeks. One remarkable feature of the summer was that in one locality at least bees gathered honey for over sixty consecutive days without a break of a single day.

The shortage of honey in part of the Province had a tendency to help keep the market fairly firm, whereas if a general large crop had been secured no doubt a slump in prices might have been the result.

I think that in consideration of the fact that there has been an increase in the number of bee-keepers and also an increase in the number of colonies kept by those already in the business during the past year or two, the time is near at hand when something might be done towards the more successful disposal of large crops.

The Association has done some preliminary work along co-operative lines this season in supplying queens to members, furnishing 2,560 queens for 320 members. Also marketing 75,000 lbs. of honey valued over $8,000. This perhaps was done more with a view to getting a start in the matter, and even in a small way this helps to relieve the congestion that exists in some localities where a large amount of honey has to find an outside market. Provision has been made on the programme for this matter, and I trust you will give it your consideration.

The management of the Canadian National Exhibition asked our Association to make an exhibit of honey at that fair similar to the Exhibit put up at the Horticultural Show in 1912. This was done by asking the local Associations to furnish the honey for it and then holding the honey over until the Horticultural Show.

The matter of the premium for members was left in the hands of your Executive Committee, as the Directors felt that we were not getting satisfaction in the *Canadian Bee Journal*. Your Committee after considerable negotiations finally arranged with the Horticultural Publishing Co., of Peterboro, to start a publication in connection with the *Canadian Horticulturist*, known as the *Bee-Keeper* which they did (and also took over the *Canadian Bee Journal*), which you have been receiving as a premium.

The Legislative grant to our Association was increased to $700.00. Our membership has increased from 500 to nearly 1,500 during the year. The number of affiliated Associations has increased to 27. Owing to the rapid growth in our membership some changes may have to be made in regard to the financing of the Association.

THE FIRST VICE-PRESIDENT'S REPLY.

J. L. Byer, Markham.

I have a few things to say in connection with our President's address:

1. *The Disposal of the Crop.* There is no question about it that the south-western parts of Ontario have been blessed with a bountiful crop, and while I was not one of the committee who had the naming of the figures as the price which we advised the members to ask for their honey, still I was present, and acted in an advisory way, and am quite willing and anxious to assume responsibility for mistakes which I think were made. I believe we under-estimated the crop and over-estimated the figure.

2. *The matter of the Exhibition.* We ran an exhibit last year at the Horticultural Show, and this year we worked along similar lines in an experimental way putting up an exhibit at the Canadian National Exhibition and at the Horticultural Show; and there again as we review the work of the season, I believe that we made another mistake. We had to contend with abnormal conditions, but we did the best we could and sacrificed considerable time. How we will come out remains to be seen.

3. *The Canadian Bee Journal.* In this connection we had a very difficult proposition assigned to us. We urged the Board of Directors that we settle the question at our last meeting. It was practically in a position that it could not be settled, and the full responsibility was given to the members of the Executive to go ahead and do the best they could. In connection with that I believe the next year's board will have the pleasure of hearing some propositions from Mr. Cowan, the present editor, which will help us out a lot.

4. *Financing the Association.* Our President has touched upon the matter of the financing of the Association. Any member coming from a County Association pays 50c. to the funds of our Association; we pay 75c. for that member to give him the *Journal* as a premium and assume other responsibilities on his account. It naturally follows that every member we bring in through an affiliated association makes us financially 25c. the worse off. If we continue with the work in this way, the funds will automatically disappear, unless we get a larger grant. We are

assured from those who should know, that if we go and ask for things we need they will come. However, we are not sure of that, and I believe that we should be careful.

THE SECOND VICE-PRESIDENT'S REPLY.

Miss Ethel Robson, Denfield, Ontario.

Our President spoke to you on the matter of co-operation. It is in the air everywhere to-day, in the matter of the disposal of honey and along other lines as well. I want you to think, and think hard, before you take any definite steps in this line. If you are going to work out any scheme of co-operation you are going to meet a great many new conditions; you are going to have to put aside some of your established ideas, and it is not going to be easy. I have not a doubt that if we co-operate we can improve things materially. I am the Secretary of our County Association at home, and I know the attitude of bee-keepers. I know particularly that among the men who have done the pioneer work there is a certain antagonism to the rising generation. You might not be conscious of this, but it exists, and will be one of the things that will make it hard to work out a practical scheme of co-operation.

Another thing I want you to take into your serious consideration is the election of your board of directors. After one has been on the board of directors for a year or two one begins to get into the swing of the business. Some of the directors have to form the executive and the executive are the people who will do the work.

Now if any active scheme of co-operation is worked out your executive is going to have to give a great deal of time to it, and you must take this into consideration in choosing them.

In the matter of the exhibition we had this illustrated very strongly. The Ontario Bee-Keepers' Association put up an exhibit of honey at the Toronto Exhibition. You know when the Toronto Exhibition comes—just in the midst of our busy season. The bee-keepers simply could not give their time to it, and much work had to be paid for which, had we had time to do it, we would have done ourselves. Probably some mistakes were made, but I do not think the present Executive made any more mistakes than any other executive. There is no remuneration for it beyond getting your railway fare paid, and you would not consider that remuneration. It is not easy to do these things, and unless you are actuated by a very strong feeling of your responsibility to the Association, you are liable to let things slip. If we are going to embark on something where a good deal of money is involved, we have to think seriously. You have to bring your best business methods to bear on it, otherwise it is going to mean a great amount of loss. The production of honey is increasing rapidly, and the bee-keepers are increasing their apiaries. We are going to have a lot more honey to dispose of. We have to do something. What it will be we have to work out. No matter how much honey we are able to dispose of to the dealers, that is not going to help us out very much because, if you do not get the honey used, you are not going to sell it next year. If we could devise some scheme whereby we could make people eat more honey, then we would not need to worry.

CO-OPERATION WITHIN THE COUNTY ASSOCIATIONS.

The President: We have heard a little this morning on co-operation. I think it is two years ago that we devoted considerable time to this question and, as one of our Vice-Presidents, Miss Robson, has said, we should give it considerable thought. I have no doubt that during these two years we have had ample time to think the matter over. The condition now is a great deal different from what it was then. There are more bee-keepers and they are keeping more bees; more honey is produced, and, while the cost of other articles of food has advanced, strange to say, the price of honey has declined a little. I do not feel that in view of the situation the price of honey should have declined. I believe that if the same amount of honey had been produced all over the province of Ontario, an equal yield per colony, instead of being short in one section and heavy in another, we should have had better prices. The disposal of the surplus honey, where large yields are given sometimes has a tendency to lower the market. I will now call on the county secretaries for their reports on the co-operation movement.

Report of Mr. Alex. Dickson, Glengarry County.

You have heard a few hints regarding co-operation. We all know very well that to make a success of any thing you have to co-operate one way or another, no matter what the business is. The big business concerns of to-day are all co-operating in either buying or selling. Why not the bee-keepers as well? We have heard the question here hinted that there is a danger of raising too much honey; I cannot raise enough. I do not think there is much danger for the simple reason that our population is increasing as well as the honey, and, as far as the selling question is concerned, there is where we have to consider the work of co-operation. I shall deal with the matter of the success of co-operation in a county association which I have experienced with the rest of our members. The question of buying tins is the important matter. Our Association in Glengarry for the last four or five years has made a success of buying our tins from a Montreal firm. This company sent a representative up to our meeting and proposed to bind us to take so many thousand; we would not do that. We suggested that they should give them to us at a set price by the five or ten thousand. A member who got fifty got them for the same price as the member who bought five thousand. The system was this; the members of the Association send in their names to the Secretary by the 15th of July, and the Secretary sends the complete order to the manufacturer, who then deals direct with the member. The Association has no responsibility, but a member cannot send his order direct to the firm; it has to be done through the Secretary of the Association; then the responsibility of the Association is clear. The company simply sends the bill of the goods to the member and the member settles. We find it very successful, and in this way buy our tins very much cheaper.

Our Association tried to deal with a Toronto firm in this way. They wrote me that they would send samples, which I told them we would be glad to receive, but this company would not deal in the same way as the Montreal dealers. It is simply a transaction independent of the Association. I give the Toronto firm this credit, however; I think their tins are a little better done up; there seems to be a finer finish to them.

As regards co-operation, I want to say that this is a question we want to get right down to. We all know perfectly well that we could do better in selling and also in buying. If we club together, it is just the same as marketing in the store;

when a lot club together and want to buy, we send to one of the large stores here, and in this way we co-operate. The same system could be carried out in the buying for the different Associations. They could also club together in selling. Our Association has been thinking of trying this. From what I hear this morning the price of honey seems to be going down a little. I think we could handle a great deal of your honey in the east; this is a little away from the question, but we have practically little honey in the east. I think some of the associations could manage to do some business with some of the firms in Montreal.

There is another thing in connection with co-operation—we must have management. Those who club together in co-operation must work together. The spirit of jealousy is a great danger. We also know that in the selling of honey co-operation has been a perfect success.

I want to congratulate the Committee on the honey exchange. I know they have done good work; they helped us in the east, for the simple reason that when we got a notice by mail of the situation of the honey market we know what to do.

MR. KIRBY: It seems to me that this can question is a very important one. Last season we had difficulty in getting cans. I would like to see the Association take the matter up and arrange something with some company so that we may get our cans supplied us.

REPORT OF MR. BLAKE MILLER, ELGIN COUNTY.

In reviewing the co-operative work of the Association in Elgin I shall confine the discussion as much as I can to our co-operation endeavors in the purchase of supplies.

I do not purpose entering upon the economical and scientific discussion that underlies co-operation that is moving the industrial world to-day. The preceding speaker will pardon me if I should correct one statement of his regarding the spirit of this movement. If I understand him rightly, he said that the spirit of co-operation is exactly the same as that of combine. I wish to correct that statement, and to say that it is diametrically opposed. The combine is for the benefit of the few at the expense of all the other parties concerned: co-operation is the blending of individual interests into a common interest. I think it will be clear that this co-operative effort, whether for purchasing or selling is helpful and legitimate. I would also say, before I enter upon my subject, that any co-operation to be helpful and complete in effectiveness must be sympathetic and tolerant. I think Miss Robson, if I remember rightly, touched very truthfully and very effectively upon this point.

This has been the most attractive feature of our work. It is true our co-operation in educational lines has been helpful, and I must express our keen obligation to the Secretary for great assistance along this line. But the saving of many dollars on supplies has drawn more members than anything else.

The best terms we could get were from a Brantford firm, and I will review briefly our system of doing business. Every order must be sent to the Secretary of the County Association, who sends it in to the manufacturer. Ordinarily they gave us ten per cent. off all supplies. On fall and winter orders to be delivered at their convenience through the winter we got fifteen per cent. off, or an advance from thirty days to first of May settlement. I may say for the guidance of other associations that may embark upon this undertaking that probably the best way is to insist upon a cash settlement: it will save your Secretary much trouble and sometimes some embarrassment.

Regarding the shipment of these goods, we make two or three shipments a year and they are all shipped to the Secretary at one centre. Last year we had a $500 order for the first order sent in. The Secretary was at this place, and received the goods from the railroad company and handed each packet to the members. The manufacturers were very considerate of the secretary's work, and had every member's parcel labelled by itself, so that the Secretary had no trouble at all. We found it worked out very well.

I think that is about all I can say regarding the co-operative purchase of supplies in Elgin. I want to thank your Secretary for introducing us to the possibility of co-operation in selling honey. I believe also he can help us some in purchasing our supplies. I believe the best we can do is 10 or 15 per cent. off the catalogue prices. If any means could be devised whereby the central Association would undertake this work, co-operating with the county associations, an advance might be made even upon this discount.

Report of Mr. Jacob Haberer, Huron County.

You have heard the secretaries of some of the County Associations. They spoke from experience—more experience than I have had. Our Association is really a young and small one yet; we have not many extensive bee-keepers. Some of the members here are complaining of the over-production of honey. It may be that the time will come when we will have an over-production in our county. I hope it will. I should like to see our county produce honey compared with other counties.

About this matter of co-operation: I do not know what we can do in that respect. However, I should like to have co-operation. I came here to hear what the other secretaries had to say about it, so that we could learn a little from them and perhaps follow their instructions.

There is one thing I might ask the other secretaries: What plan are they taking to keep their members? The first year we had twenty-four members; next year we had thirty-two; this year we have only seventeen. I must say that I was laid up the greater part of the season, and was not in a position where I cared very much about business. I tried to correspond with the old members, but I could not keep them together. There was possibly one reason: You know that forms had been sent out by the Provincial Secretary, and whenever I asked bee-keepers who were members before to join our Association they said they were members of the Ontario Association. I was glad as long as they were members of the Provincial Association, but it kept our membership down a little. In one way it was no harm. So I do not really know what we can do in future, but I hope we can recover our members.

I do not know whether it belongs right here, but I would like to ask a question that belongs to the crop reporting. The instructions from the Crop Reporting Committee this year said 11 to 12 cents wholesale; 14 to 15 cents retail. It seemed to me everything was wholesale this year. In future I really would like to see a little more explanation:

Mr. Morley Pettit, Guelph: In reply to what Mr. Haberer said about the Crop Report prices, I may say that I thought we made the explanation more explicit this year than ever before. I was not sure whether Mr. Haberer was referring to the efforts of the Secretary to sell honey for members when he said "everything

was wholesale." If that was the reference, I might say that we did not undertake any retailing this year at all. We sold about 75,000 pounds for members wholesale, but we left the retailing entirely to them to look after around their homes. However, that question will come up later.

Report of Mr. W. A. Chrysler, Kent County.

I have not been prepared to enter upon this subject, but I came to listen and if there was anything new in the co-operative line, I am perfectly willing to listen to it and discuss it, as my mind has been on the subject for a number of years. We have met with a great many obstacles in the co-operative line.

I suppose a great deal may be done in the County Associations in the matter of buying supplies for its members. You may get a cut in prices—and I have no doubt you can—but a greater cut in prices would be obtained by the Ontario Association if it can be worked out to advantage. The Secretary or anybody in the Ontario Association could attend to the work; but there is one difficulty that confronts us: we have a certain number of middlemen. We have the retailer, the wholesaler, and some say the jobber. We are making another middleman when we produce another association to handle supplies. There is where the objection has been in all our past experience: to eliminate that other man, and we are becoming that other man ourselves.

My idea in co-operation is to get an association that can place it in the retailer's hands first thing. If that can be done we have something that can be worked out to a profit and advantage to the producers: but when we produce another middleman it is at the expense of the producer and no advantage to the consumer. That is the disadvantage that we have had in the past.

As far as co-operation in buying supplies goes, I have had some experience in manufacturing and selling supplies, and the secretaries of the county associations did the distributing. If the manufacturer can get a large order ahead and knows how much he can send out at one time, he can label the goods and can certainly sell them cheaper than he can to individuals. I think that if the Ontario Association took it in hand the prices could be further reduced, probably to 20 per cent. off, but the manufacturer naturally thinks, "Is this man good?" He wants to have some guarantee as to the man he is selling to, and if he is a member of the Ontario Association his credit is good. I have never lost anything on bee-keepers, however. I had almost given up the idea of co-operation unless we can get something nearer to the retailer and consumer that we have had.

Mr. Pettit: I feel like replying to one point that Mr. Chrysler raised, and that is the fact that the sales that were promoted for members by the Association this year cannot be taken as the work of a co-operative association. We did not presume to be a co-operative concern this year. All that we did this year was to attempt to help members to make sales of their honey. That attempt cost us the time of one man and a great deal of postage, and time and postage mean money that has to be paid, and the 5 per cent. commission on the sales that was asked was needed to defray those expenses. We spent considerable money in postage, circularizing dealers or people that we hoped would become customers for buying honey and we secured for members sales to some wholesale concerns. We also secured sales to some Farmers' Co-operative concerns in the west. We do not consider that the results of the work, taken up as it was in the last moment this year, an index of what a co-operative concern would do. We consider them really a help-out to some of the members who were not able to sell their honey.

Report of Mr. M. B. Holmes, Leeds County.

We have had some very helpful hints from a number of the gentlemen who have spoken. The plan in Leeds County, I believe, works out very similar to the plan in other counties.

Our County Secretary has directed our members to the Toronto firm and they deal direct, thus saving the Secretary any trouble and confusion in handling the orders. The plan and the principle worked out identically the same and relieved the Secretary of a very considerable amount of correspondence, the individual having been directed to send orders direct to the company and get the goods and pay for them—and the plan is one and the same.

Some speaker has said that everything seems to be wholesale this year, and that I submit should be a very satisfactory state of affairs. For once we have plenty in the Province. We are told there are some little stocks of honey yet in the hands of producers throughout the Province: that should be very satisfactory. If we have a stock in reserve we are sorry; and again, if we have not a stock in reserve, we are sorry—a rather peculiar paradox, is it not? Do we not find that the merchant is content, and only content, when he has a stock in reserve, ample for every emergency Listening as best I can up to this juncture, I think this situation is certainly very satisfactory.

Mr. Haberer: More than half the people believe that honey is a medicine. We should teach them the honey is an ordinary food, and very healthful.

Report of Miss Ethel Robson, Middlesex County.

The Crop Report Committee recommended 15c. per lb. for retail honey, and that would mean $1.50 per ten pound pail. If your part of the country is like mine, then it is impossible to sell ten pound pails at $1.50. They simply won't buy it. People usually have a good crop of apples, and apple sauce is a staple food in the country. It's quite impossible to sell honey at more than $1.25 per ten pound pail, and, if you are selling two or three pails, you have to make a reduction or lose your home market completely.

I listened with interest to the secretaries who had made an attempt at buying supplies. They have received some reduction, but after all the reductions they have received are practically no more than an individual bee-keeper can get from those companies. A man who is sending in a large order can get just as much as we have been able to get so far.

In the matter of co-operative selling, Mr. Pettit has told us that the work this year is purely experimental and not really co-operative work. I agree with Mr. Chrysler that we have to aim to put out the middleman, and undoubtedly we can do that. If this work is taken up another year, it will be quite impossible for this Association to get in touch with the consumer by use of the papers. We have papers going to every home in the west, and to-day it is the western market we are looking for.

To tell you what Middlesex has done. We have not done very much, but we have talked. That is nothing to be ashamed of, for the Ontario Bee-keepers' Association talks very much. One or two years ago we discussed the matter of co-operative purchase of tins. The Toronto firm sent a representative to our meeting, but the experience was the same as that of other associations. They said that they had their prices cut down to rock bottom, and could make no further reduction.

At present we have a resolution which we have sent in to the Provincial Secretary requesting the Ontario Bee-keepers' Association to take up the matter of co-operative buying of our tin honey containers. The trade is demanding a lithographed pail and the sooner we all begin using a lithographed pail the better. The plain pail is not a fit article to put our honey in It may be all right where your honey is going right to the consumer, but where it has to go into the store and stand for six, eight, or ten months, the plain pail is unworthy of the substance it contains. (Applause.) It depreciates its value.

Capt. A. W. Young, Port Lambton: I take it from what the speakers have been saying that the container is one of the most important things, and the most satisfactory one is the one that the Ontario Bee-keepers' Association will likely be interested in. In the village of Sombra there is a company making what they call a paper pail. They claim that it will hold machine oil for six months without leaking through the receptacle and, if it will do that, it will hold honey. It is much better than glass or tin.

PROVINCIAL CO-OPERATION STARTED.

Morley Pettit, Secretary-Treasurer, Ontario Bee-keepers' Association.

The beginning of the co-operative movement in the Bee-keepers' Association was in 1902, when a public meeting of the bee-keepers was held in Barrie at the close of one of the regular Annual Conventions to form a honey exchange. Five directors were appointed as follows: C. W. Post, W. A. Chrysler, Wm. Couse, John Newton and H. G. Sibbald. The officers elected were President, H. G. Sibbald; Vice-President, W. A. Chrysler; Secretary-Treasurer, Wm. Couse.

"The object of the Exchange is to collect as correct reports as possible of the honey crop of all bee-keepers in the Province, to sell honey at as uniform prices as reasonable, to prevent the honey from being delivered in unequal quantities at any points, to try and ship honey in car lots to save freight, to have all honey properly graded and sold according to value, and to promote the general interests of the bee-keepers of Ontario. A membership of one dollar will entitle any bee-keeper to assist in this undertaking."

The crop report undertaken at that time has proven of great value as we all know. The co-operative selling of the crop has been left until the present. Two years ago considerable attention was paid to this subject at the Annual Convention: after all the addresses were delivered the matter was dropped, because prices were too good. Last year prices were still good, but this year a large crop in some counties has weakened the prices and a letter sent to members by your Secretary, offering to try to sell their honey met with a ready response. Our correspondence with reference to honey sales immediately became very large.

In order to provide the necessary expense, a blank form was issued to the members asking for full particulars *re* the containers they put their honey in: guaranteeing their honey according to sample sent in: and agreeing to pay 5 per cent commission on sale price if sale was made through the Association. Emphasis was laid upon the fact that we were only trying to handle honey for the members where they could not obtain the minimum recommendation of your Crop Committee, which was 11c. per pound at the time. On the other hand a strenuous campaign of circularizing was entered into, covering the wholesale grocers and

produce dealers in Canada. An invitation was also extended to the Grain Growers' Association of the North-west to co-operate in their buying of honey for the members. The immediate result of this promotion was the sale of 75,705 pounds of white clover honey at a value of $8,388.45. This benefit was distributed to 43 orders to individual members and, owing to lack of organization, we were forced to decline an order for 24,000 lbs. of buckwheat at a very fair price. The above figures, in my opinion, can only give you a slight idea of what is possible in co-operative selling among bee-keepers.

Since co-operative selling must have for its aim the creating of a permanent and remunerative market for the bee-keepers' honey, it will readily be seen that the members of our Association must be much more thoroughly organized to accomplish this. In the first place, the handling of the honey and attending the local conditions can be much better accomplished by a local organization. In the second place, a sufficient amount of capital must be furnished to work upon. This would vary according to the amount of honey to be handled. In the third place, members must be prepared to allow the selling organization to figure on a portion of their crop in the poor year as well as in the successful year, before a permanent market can be created.

THE OFFICE OF DIRECTOR—WHAT DOES IT MEAN?

R. E. L. Harkness, Irena.

I am a comparatively new man at the work. Last year I was elected a director at the annual convention. At that time I knew absolutely nothing of the duties of director.

What does it mean? A director, we all understand, is one who directs by influence. I consider that directors must be influential men—men who are doing, not only saying they are doing, but actually doing—men who in the district will produce crops of honey where other men fail. That man is sure and bound to have influence over these other men.

In order to be able to produce crops in adverse years as we have had this year in the east, one must be up and doing. You know that when the western fellows were talking about their fine crops and we eastern men were sitting there, waiting and hoping for rain, we might have a bit of the good sweet that we did not get. When I tell you for my summer's report on rain measurement from the 23rd of May to the 12th of July at my home we had one-fourteenth of one inch of rain, you will see that it was altogether too dry for honey crop; but nevertheless I did produce a small surplus of fifty pounds per colony. I am almost ashamed to tell it, because those western fellows will tell you they had 150 or 200 lbs.; but conditions were very favorable for nectar during that period for the western men. At the same time men who were keeping bees long before I started—had absolutely nothing. In the little work that I have done around home, I always make it a point to bring out this—show what can be done. I think to be a successful director and to have influence we must be doing work of this kind.

What are the duties of director? Of course his duties are, I think, to attend meetings and demonstrations and to be willing to help in every way possible. He can assist in getting members for the Ontario Bee-keepers' Association and working along co-operative lines. I know there were a few meetings held in the

Eastern District last spring and there was only one that I could attend. I got a great deal of good from it, and I think I helped fellow bee-keepers as well as the man who did the demonstrating. I think directors can do a great deal right along this line.

There was nothing that would have given me more pleasure than to have followed up that series of meetings from start to finish. I would have been only glad to have given my time, but I did not feel just like paying my expenses. It would have cost me possibly $15 or $18 for the week. I wrote Mr. Pettit, and I received a reply that the directors did not have their expenses paid. It is all I mentioned; I did not want anything else. Of course when my expenses were not paid I abandoned the idea of following up the series, but I felt at the time if there had been a little more money available that I could have followed up these meetings. I know many of you will possibly criticize me for this. I know I could have helped a great deal and done a lot of good, and I am sure there is not a director on the Board who does not feel the same way. I am satisfied that almost to a man they would give their time if their expenses were paid. It is the way I felt about it, and of course it depends upon the individual. We will probably get the opinions of some of the other directors along this line a little later on.

Mr. Holmes: When I saw the item on the programme, "The Office of Director—What Does it Mean?" it occurred to me that perhaps there might be a variety of opinions as there is a variety of faces and facial expressions. A director is one, it has been said, who directs, who assumes responsibility. He directs first, the affairs of the organization which appoints or elects him as their director. If he is fully seized with that thought he allows no opportunity to pass of his advancing the interest of the organization or association which elects him. In doing that he manifests an interest in the individuals with whom he comes in contact. Therefore, he would answer briefly that, to be a director in a bee-keepers' association one must have a sort of kindred feeling with men who are engaged in bee-keeping. being fully seized with that thought he just naturally goes wherever there may happen to be a meeting of the bee-keepers in his district. I believe that will be generally admitted. If we have the kindred feeling or the interests of the individual at heart, then there is no effort in the going. We have often read: "It is pleasant to labor for those we love."

We learn from the preceding speaker that the director should have influence and lead. In the district in the east where I happen to be the director, and have been for two or three years. I have followed every movement, in fact tried to advance the interests, so in this you will admit that I have been consistent.

In the matter of demonstrations, the bee-keepers down east first suggested the thought of having a midsummer meeting or demonstration at the "Home of the Honey Bee" in the pretty little village of Athens. We suggested that they have it in the form of a basket picnic, and the affair proved so successful, so attractive in fact, that to use an expression which we sometimes hear and put in practice, "As the day draws to a close they still wish to linger longer." Following that there was a second demonstration the following year at our home, also one in the village of Elgin. At the latter meeting a speaker from Ottawa was expected but he failed to come, so the duty fell on me. It was pronounced by those present to be a success.

We find, as I have said a moment ago, that the impulse to help others engaged in a similar calling as ourselves must be a natural impulse, and of such a force and nature that we will go no matter whether there is any financial end to it or

not. We find bee-keepers are differently constituted as they have different facial expressions, and there is an old saying that I think fits quite aptly, and we would perhaps classify them in three ways: "He that knoweth not and knoweth not that he knoweth not, shun him; he that knoweth not and knoweth that he knoweth not, help him; and he that knoweth and knoweth that he knoweth, follow him."

The office of director means that a man moves steadily forward. He first studies the interests of the parent association, and then he studies the interests of the individual bee-keeper as he finds him in his district.

Mr. J. Garbutt, Owen Sound: I think that a director should be a man of influence, one to whom his neighbors would look up for help, and that he would be a man that would be able to help

Mr. Pettit: In advertising our local demonstrations I sent a letter notifying the director concerned of each demonstration, giving him the opportunity of being present. I thought that the directors would prefer to have the privilege of getting in closer touch with the bee-keepers in their district. I knew in some cases it would be impractical, but they would at least know that these meetings were going on and would be able perhaps to induce some of the neighbors to go if they could not always go themselves.

The question of what the Directors of this Association are for is one that has come up occasionally; and, if you had been in our Directors' meeting last night, you would have seen that the director has a real duty to perform. I believe that there is a lot that can be done by the directors in their districts in promoting the interests of the County Association and helping those who are struggling along in the bee-keeping industry.

Miss Robson: I think everyone who is elected to that office feels a certain amount of responsibility, but probably Mr. Harkness, in his very frank acknowledgment, touched upon the root of the matter of doing very much work in our own district. I know I had notices from Mr. Pettit of those meetings which were to be held through my district. It would have given me very much pleasure to have attended them, but my time was worth too much at that time of the year; we were unusually busy. I do not think I am more mercenary than anyone else, but the average bee-keeper simply cannot give the time. The office of director is a training for the future executive; it seems to me that is the greatest value of the directors.

The President: As a director of the Association for some years, perhaps I may just say a word before we pass on to something else. Some things have occurred to me since I have thought over the subject you are discussing. The Directors are appointed for the different districts; they represent the Association in that particular district and the Association places upon them the responsibility of doing a certain amount of work. As Miss Robson has very truly said, it is a training for the board of directors for future members of the executive committee. There is quite a large amount of business in connection with an association of this kind, and we have to learn. As a director myself I do not know that I have done any more than I might. I think in districts where several members are grouped that local associations could be organized there by directors, memberships could be secured if they were active; it is not necessary that they should sacrifice valuable time in the summer, but there is a good deal, of time that directors could spend that would be profitable to the Association without much financial loss of time to themselves.

TAXATION OF BEES FOR LOCAL INSPECTION.

THE PRESIDENT: A motion was left to be dealt with this afternoon. I have a copy of the motion here and shall read it to you, and it will then be in your hands for disposal. It was moved by Mr. Evans and seconded by Mr. Hopper, "That the Executive be, and they are hereby directed to endeavor to have the Foul Brood Act amended so as to provide for the appointment of a Foul Brood Inspector in every municipality in the Province, and the annual inspection of every hive of bees in each municipality; one-half of the expense to be borne by the owners of the bees and the balance by the Province or municipality as the Legislature may direct, such payment by bee-keepers to be in lieu of taxes, provided, that one Inspector may be appointed for more than one municipality."

MR. EVANS: In moving this resolution I may say a few words in connection with it. I feel that there is no general systematic inspection of different apiaries in the Province. I believe there are as many apiaries infected as there ever were We should have a systematic inspection of all the apiaries. I think this is the only way we will ever get rid of foul brood. I think we should have an inspector in every municipality, not necessarily a separate inspector. I think we ought to have every hive inspected once or twice anyway for the next two years. I don't think the cost would be very expensive—in the neighborhood of 10c. a hive, possibly five. If any bee-keeper objects to paying 5c. a hive, his time must be of very little worth; I would be very pleased to pay 5c. a hive to have my bees inspected once or twice a year.

As to the payment of the funds, I think the bee-keeper should pay one-half of it. I would leave it to the Provincial Legislature as to whether the larger share would be paid by the Province or the municipality. I know that in the provision for the inspection of diseases of plums, etc., the municipality pays the whole of it; but in any case it would not be a serious matter, and, as the Province is likely to get some assistance from the Dominion, they might use some of that money for the inspection.

I would have that money collected by the municipality through the ordinary collector, levied as a tax.

MR. SIDNEY ROBINSON, Vasey: The easiest way out of this difficulty is to have the bee-keepers help themselves. The law should be amended so that every man who kept bees, whether it was one hive or one hundred, should pay a tax of $5.00. I know in my locality a little fellow here wants a hive, and another wants another hive, and he knows nothing about bees. If he had a tax of five dollars to pay he would look twice before he would get a colony of bees from his neighbor.

MR. J. H. BURKHOLDER, Binbrook: I am from Wentworth County. I am pleased to say that in our immediate neighborhood we have no foul brood, and it may be that we can attribute it to the fact that Mr. McEvoy lived amongst us. I understand that this is a proposal of a direct tax upon bees for inspection. Would you approve of having an inspector come and inspect your apiary of 190 colonies when you know absolutely well that you have not got foul brood? Do you want to pay a man five cents a hive to go there and inspect your bees when you probably know more than he does?

Now I will ask Mr. Evans a question about taxation. Our taxes are high enough over there. Our taxes at Binbrook to-day are just three times what they were about fifteen years ago. If it keeps on increasing like that, other expenses will keep cropping up and the tax on bees will naturally go up, too. There is no

other sphere in agricultural life that has direct taxation. A man may specialize in sheep, pigs or thoroughbred cattle: an inspector is sent out to inspect his stock and the Government pays for it. If a man wishes to branch out on a special line, I don't see why he should be taxed for it. Bee-keepers who are in it for a business pay a business tax now. I am opposed to direct taxation.

Mr. Evans: I would be quite satisfied to pay an Inspector twice a year to inspect my bees, although I know all about foul brood. If you are going to exempt those people who say their bees are all right, you will never get any general inspection in the Province. A great many people think their bees are all right and they are not.

A Member: Two years ago I advocated the destruction of ever diseased colony. That is the only practical manner of getting rid of it, and the sooner the country gets rid of it the better. Burning is an absolute cure.

A Member: Suppose you have first-class inspection, how is the inspector going to be sure that the bee-keepers will follow out his instructions?

Mr. R. Lowey, Woodrows: I think we should have local inspectors; they are interested in their own neighborhood and do their work more thoroughly. Taxing is out of the question. A bee-keeper should get a bonus, if anything. Bee-keepers are a benefit to their neighborhood, because their bees are gathering something that is absolutely wasted if we do not use it. If we use Yellow Italian Queens we will have no European foul brood.

Mr. Byer: We want to get rid of foul brood. I think a committee ought to be appointed to deal with it and bring us something tangible. I am opposed to the motion that has been brought before this meeting. I have a number of bees in York and Simcoe Counties and inspect them once a year thoroughly. Is it reasonable to suppose that I would allow a man to go through and inspect my bees when I know there is no disease. If I find a case of foul brood in my apiary I would get rid of it for a selfish reason. To the best of my knowledge I have not a case of foul brood in my apiary at the present time. It would be preposterous to have to pay a tax. I want to say that there is quite a strong feeling among some of the bee-keepers against some of the College boys coming to inspect their bees; because while many of these College boys know more technically they have not had the practical experience, and therefore have in many cases got a poor reception.

Rev. John Moore, Parkhill: If we as a Bee-keepers' Association pass a resolution of that kind the Government, will, of course, be very glad, and will no doubt accept it, and will be ready to add to it. The Government, as a rule, attends to taxation, and I would naturally think the move would come from them because the Government imposes taxation. I wonder if the bee-keepers know how much we get from the Government now to pay these inspectors. Are they paid by the Government?

Mr. Pettit: We got $1,000 this year for the work.

Mr. A. W. Free, Campbellford: While this inspection business is under discussion I might say that I think it is hard to get at the root of the matter under existing circumstances. There are a lot of people who keep a few bees and I think every person should be compelled to report to the Association so as to know where to find them.

Mr. H. G. Sibbald, Claude: I feel that if this goes to a vote there would be a good many vote against their own convictions in part any way, because I believe it is the conviction of nearly all bee-keepers that we should have more inspection in the local districts. It would not cost so much, because there would be no travelling

expenses. I think the idea that Mr. Byer has thrown out that we should have more experience behind the inspectors is a splendid one. People like to have someone inspect their bees that they will respect, and they will have more confidence in whatever he decides as to whether they have disease or not, and how to cure it. I would not like very much to be taxed to have a student from the College come and look through my apiary; I think I could do that better myself. At the same time if an inspector came that I knew knew all about foul brood, and would undertake to inspect my apiary and look right through every hive and mark the colonies that had disease in, I believe I would be willing to pay, without being taxed at all, because it would save me that much hard labor. What I would like to have the expression of this convention on is this: Do you want more inspection and would you rather have more experienced men do the inspection, dividing the districts into smaller districts so that the men could go through the districts, sacrificing a week of his time to a township. A man should be able to spare a month anyway before he could go through his district under the present circumstances. I should like to see an expression of the conviction just on this point. The matter of taxation I do not think would catch very well.

A Member: If the bee-keepers present—those who are making a living by it—would be interested sufficiently to look over their neighbors' bees and act as inspectors in their own municipality, it would save a lot of trouble and get over the country quicker, and, where there are a great number of hives, have an inspector come. We have American Foul Brood in our section. I was willing to give my time to go through a man's yard who lived some miles from me. He came and told me of his trouble and asked me to go and look over his apiary. A commercial bee-keeper in the neighborhood could act as inspector.

Mr. Jas. Armstrong, Cheapside: There is one great thing that has never been touched upon at all. I think that the very first report that I brought in as an inspector of this Association, mentioned that something in the way of an Act be passed to control the coming of diseased colonies into this Dominion of ours. They are coming across by the hundred every year. I know of four cases that have come in this year with the disease, and they are coming in by the hundred, and there is not one thing that we can do to stop it. We may clean out every year and inspect every colony of bees in Ontario every year, but a man slides over the border and brings in 100 colonies of bees and distributes them over the Dominion or even Ontario. You cannot stop it; yet, if there is a committee, I think they should take up the question so that as soon as the bees come to the ports of Canada that they should be reported to the Minister of Agriculture, who will notify the inspector of that district to be on hand to inspect those bees, and, if he finds disease, destroy them on sight. We will never get rid of it if they are allowed to bring them in.

The President: I am somewhat in favor of a great part of this original motion of Mr. Evans. This is a matter of having a tax placed upon the bees to help to defray the expense of inspection in case that we asked for an increased grant. I do not know whether that has been made clear to-day or not, but this suggestion is not one of Mr. Evans' own ideas; I am taking the liberty of saying this. When we as a Committee representing the Association went to the Department late in the year of 1911 or early in 1912 to ask for an increased grant—which we got—the Minister told us at that time that he did not think that we would be satisfied, that every time we went back and expected to have that grant increased from year to year, not to come with too great regularity. He said that we were spending a good deal of money for this, and he thought, as was done in other cases,

that the bee-keepers should help in some cases to defray the expenses themselves; and he suggested that we ought to have the feeling of the convention whether the bee-keepers would be in favor of paying a tax and have the sum doubled, and then have more inspection, and in that way there would be a greater campaign to have the Province rid of the disease. I am pleased that this last amendment has been moved. I would like to see this come up again. Perhaps there are a few who are in favor of this but some of you may object to some parts of it. We can have the privilege of discussing this again and I would suggest that we take it up at the Friday morning's session. The resolution of Mr. Evans, seconded by Mr. Moore, that this question be left in the hands of a committee composed of Messrs. Sibbald, Byer, Armstrong, Hopper, Lowey and Evans, to report at the Friday morning session should stand, was carried.

THE SWARMING PROBLEM.

Mr. H. G. Sibbald, Claude.

The Secretary called it a swarming problem, and I suppose a problem is something we are mixed up on and which puzzles us. If we did not have any swarming amongst our bees, it would be one of the nicest businesses in the world, except for the stings. We could manage bees nicely with very little labor if it were not for the swarming problem.

How to eliminate the swarming problem is the vital question that we want to discuss, but nearly everyone will agree, especially the large bee-keeper, that it does not pay to have bees swarm, especially in a large apiary where there are one hundred colonies. It pays better, we find, to keep them all in one hive, only one brood nest to keep up and a large army of workers to go forth and gather honey. It does not pay to have them swarm because it takes too much time to attend to the swarms when we are very busy and should be attending to other work. It does not pay to have them swarm, because if one colony swarms, they often mix up in a large yard and that takes the swarming fever to the other colonies. So what I am going to do, is to tell you what I try to practice to keep the swarming down. I cannot tell you how to do away with it altogether; I have not been able to do that myself, but perhaps I can give you a few hints that will help you control it. There are bee-keepers present that I do not need to tell anything, but there are lots of small bee-keepers here to-day, and perhaps I will be able to help them.

The causes of swarming, I have always thought, are a crowded condition during honey flow. Superseding is sometimes a cause of swarming and the race of bees has something to do with it. So with those three items I am going to try to point out how to prevent swarming. In the spring of the year if your bees have plenty of honey, or if you have a good strong honey flow, you will often find some colonies with plenty of honey and very little room for the brood, which I call honey bound. There is too much honey in there. If you put a super on top of a colony in that condition the bees will hardly cross over that honey to go into the super; they are more apt to swarm and not go into the super at all. The right way to have it is to have your brood to the top bar; that is nearly all brood. If you put your supers on top of that there is no room for honey down below; they must go

up. The crowded condition that exists down below will thin out. You have overcome one of the first troubles in the early part of the season. If you can get them into the super once, you have made the first great point towards preventing swarming.

The question is, when you find your colonies honey bound, what to do with them to get the honey out. Some would say, uncap the honey; they have to take it some place. You may put in empty combs, uncap this honey and the bees carry it to the outside. You may put on a shallow super, but you must disturb the honey in some way, either by brushing it over with a rough brush—something just to injure the cappings and make them take it out—or shove the combs tight together. The honey is usually not wider than the brood and by shoving it together you will induce the bees to tunnel their way up through it. As fast as they remove the honey the queen will fill it with eggs. I would not like to super a colony just in that condition. If there were a lot of combs like that I would like to have that changed. Of course that is a work that should be done before supering time—to get the lower part of your brood nest in the right shape for supering.

I winter in a ten-frame hive. I usually winter on nine, and there are only nine in the fall when they are fed up for the winter. Of course they bulge the honey out quite a bit further than the ordinary width of the comb down below. In the spring by shoving them all up tight you get them to take out the honey pretty well to the outside. Some years I don't have any trouble. This season there was hardly any honey left. If the honey is used up pretty well and you do not allow them to starve, you will get your combs in that state. There is not a bit of danger but that they will go up in the super if you put it on in time. I consider it an ideal condition to have a colony in when it is ready to super.

Now, regarding the question of supering. As a rule a good many leave that a little late. The bees get cells started. You should watch them, and before they get the cells started they should have the super put on because, after they start the cells, it is more difficult to break up the swarming fever. I always put a queen excluder between the brood and the super. Of course it is a fact that bees will go into a super more quickly without the excluder there, but, if you can get them to go up with the excluder there, it is all right. Get them up some way or another into the super. One of the strongest points in the prevention of swarming is to get them up in the supers. Pay lots of attention to that right away. If you get them started to store honey in the super you are pretty safe.

The time of supering varies. Some years we have to put them on in apple blossom time; some years just before the clover season. All those bee-keepers who live in the south-western part of the Province would put their supers on earlier than we would up north of Toronto. They would have to put them on in fruit bloom. All bee-keepers should have them on before clover season.

If you have a weak colony, a good plan to do with them is to crowd it up on five combs, using a division board, and then put your super on just the same before the season comes in, because as soon as there is a season of honey it goes up into the super. No matter how weak a colony is after the clover comes in, they should gather some surplus which should go up into a super. I would put a division board in, crowd them up to five combs, then put on a super and allow them to put the surplus honey into a super. Give them more room below later.

The next point is ventilation. Just as soon as you get them into the supers they need more ventilation than they get in an ordinary entrance, one about fourteen inches wide and about three-eighths of an inch high. As soon as they are nicely up in the supers and the clover flow starts, you should block your hives up so that they would have at least one inch by fourteen inches of an entrance. The only other ventilation that I ever give them is through quilts. I put quilts on the top and by this time of the year they usually have a few holes bored in them, and with a loose fitting cover they get quite a little ventilation through the top. If I were using a hive with a flat tight top board on top I would want that raised just a little in the warm weather so that they would get some ventilation under it.

I have another plan of what I call cooling the hive: I take out one comb. I like to winter them on nine, and during the most of the summer I only have nine combs in the brood nest, but in the spring when I crowd them up, if I find them with lots of honey, then I put in the tenth comb. Last spring my colonies did not seem to need that because they were very strong, had not any too much honey and I left them in the spring on nine combs. They will build up best on ten combs, but after they are supered and the warm weather comes, it is a splendid plan, I consider, to take out one of the ten combs and I leave them on nine. You can imagine how much more room that gives for air and for the bees to cluster in between the combs.

When the supers are put on I usually space super combs very close together and leave space at the two outsides, and as soon as they get well started I like to spread them apart, eight combs only in a ten-frame super. As soon as your comb is practically filled with honey they have still a little room to extend the cells and work is a little wax which contents them to be building a little; next lift that super off and put another one on. When that first super is finished, extract it and put it on again. I do not really see very much advantage in tiering up hives in my district, because we have to get it off so soon at the end of the season or else we will have buckwheat honey in it, so that I like to keep our work up pretty well.

There is another point, and that is the queen cells. Of course our queens are all clipped; that comes in in spring management, and I am just mentioning that to show the control which we should have. We go through the hives about once a week or every ten days, and we destroy all the cells. Any place where the cell is started we destroy them. I have been speaking this summer to larger bee-keepers, and they believe that it is the best plan even to destroy a cell if it has not an egg in it. Just put your finger on it and rub it off. Even if you don't destroy every one, it will help. That is another part of the plan. Of course you will find lots of colonies without anything doing in the bottom. Do not imagine that you will have to go through every colony, but, when you do come to a colony that has started cells, destroy the cells. If they have them started the next week when you come again, take the queen away and re-queen that colony.

I have come to believe that there is quite a little bit in the race of bees. I used to raise my queens from swarming cells all the time. The bees that swarm first and had the best cells were usually the ones that I selected and kept in my yard. My bees got in such a terrible state for swarming that they were swarming all the time. I have had ten years ago as many as ten swarms out in the yard at once. I attribute quite a bit to the race. Some bees are inclined to swarm just the same as the different strains in other stock show some particular trait. By paying more attention to the race of bees, we can eliminate swarming, and by

selecting and breeding only from bees that show no signs of swarming. I like to raise them from a colony that has been so crowded that I wonder why they did not swarm. Just imagine, this summer we had a great big honey flow and some of our colonies were so crowded that you could hardly get a comb out of the hive, and yet we had a very, very small percentage of swarming, and I attribute that to the selection that I have been practising this last five or ten years, and the strain of bees I have got thereby.

Another cause of swarming that puzzles me quite a bit is the superseding. When a queen is superseded during the season they are almost sure to cause a swarm, and that brings you to the queen business again. Re-queen often. I never get just as much re-queening done as I should like to do. I think that you could re-queen a good many of your colonies every year to advantage. It might pay you to keep your queens from the best stock for the sake of the drone influence in your yard next year. A young queen is worth quite a little more than an old one. Take a queen that is raised after the season and they do not do a very great deal of laying this season. They are like a young queen next season and they start to work vigorously, and the bees seem to work just the same and the colonies seem very little inclined to swarm. The older queen often shows a tendency to swarm. Before they are so old that they have just to be superseded they get the swarming impulse. Mr. Alpaugh is with us; he is quite an expert, and has given me much advice on the control of swarming.

With comb honey I let them swarm, and I hive the swarms and raise the comb honey from the swarms; but this last few years I have not raised much comb honey, and have tried to get out the swarming altogether. I fancy that it could be done but I do not know just what some of them practice. The season has quite a little bit to do with it, but at the same time we have had three or four seasons now that we have not had very much swarming. I have a good deal of faith in just the few points that I have given you as a help to prevent swarming.

A MEMBER: Do you consider 14-inch space enough for ventilation?

MR. SIBBALD: I leave about 14 inches for ten combs; in the ten-frame Langstroth hive 14¼ inches.

MR. E. T. BAINARD: Do you use full sheets of foundation in the brood nest?

MR. SIBBALD: I generally use foundations because I am a little troubled with disease. I have got so afraid of combs that I hardly ever put a comb back into a hive. In a clean district I would not be afraid to use combs.

A MEMBER: Do you spread the brood to put the comb in?

MR. SIBBALD: I would not spread the brood; I would put it outside between the division board and the brood.

A MEMBER: I have practised that a good deal. Use one comb at a time and by that means you get the brood rather than honey.

MR. MCEVOY: I would like to ask Mr. Sibbald if he uses wedges to prop up the hives; I use them.

MR. SIBBALD: I use wedges ¾ inches, going down to a point at the back of the hive. I have tried plugs under each corner; you see that recommended sometimes and written up in the journals, but I do not like them for various reasons. The bees will get out, and in coming into the hive have to make of themselves ladders to get up through the hive. They like to have the back and sides of the hive where they can come right up and get into the combs, so that I fancy the wedge is probably the best we have.

A MEMBER: Don't you think they get more ventilation with the plugs?

MR. SIBBALD: I question if you do not get just as much ventilation, because bees have a habit of practising that fanning method of ventilation. If there is a hole in the back and along the front I think they are just at their wit's end to know which end to take in the air at.

MR. BURKHOLDER: What was your percentage of swarming for the season?

MR. SIBBALD: Not over six per cent. of swarming this year. I had a lot of bees and a very heavy flow of honey, and I was behind in my work.

A MEMBER: Do you consider ventilation from the bottom as well as it would be in the upper part of the hive?

MR. SIBBALD: Another ventilation scheme that I have found very good is just above the brood nest. I have a long excluder with the frame on it longer than the hive, and when we want to ventilate we draw it back. The excluder was made by Mr. Alpaugh, and I like it very much. When you set it on the hive the inside corners will just catch and make it tight, so that there is no ventilation or no air space; but if you draw it back it is longer in front, and you get a 3/8-inch ventilation there. You can ventilate just above the brood nest which is far better than ventilating above the honey.

A MEMBER: Do you raise brood to the super?

MR. SIBBALD: The plan of raising brood is all right. It will relieve the brood nest and it will take the bees up. They will follow the brood up and that gives them relief below. But in practising it in a large way you have to look in in about a week and destroy any cells that they may have started. That takes quite a little bit of work, especially if you have another super up above that again. But, if you had a hive that persisted in raising cells, perhaps you could break it up in that way.

MR. EVANS: As soon as the bees begin to gather honey in the spring from dandelions and fruit bloom, I put on a top super; that will be just shortly before white clover blooms. I go to a hive and take all out of the bottom except one comb. Leave the queen down below there and fill the rest of the hive with foundation, put on the excluder and put the other foundations on top. In about a week after that you must go through it and take out the queen cells, but that one taking out does for the whole season. That absolutely stops swarming. You do not have to go a second time. I only had one swarm.

MR. SIBBALD: The presence of cells in the super will often cause them to start cells below; I am very convinced about that. As soon as you get cells below you are bound to have swarms. The season has a great deal to do with it. I would be sure in an out-apiary to look in a week after or so and see if there are any cells above. I emphasized the fact that I believe there is a great deal in the strain of bees. I believe bee-keepers could, if they kept on selecting them, quite eliminate swarming. I am much encouraged with the success I have had myself. I got a strain of bees, I think, that did not have very great swarming tendencies, and have kept selecting from them all the time. I am going to differ with Mr. Evans about wiring foundations. A few years ago I might have said just the same as he has.

MR. WM. ELLIOTT, Adelaide: In regard to the supers not causing any swarming, I have raised a good many queens in my time and I find in some cases, and in very many cases, that I will get a colony that will cast a swarm by having the queen cells in the upper story ready for hatching.

MR. DICKSON: I would just like to say a word in connection with the non-swarming. I want to tell you if you follow Mr. Sibbald's advice, swarming won't

trouble you very much. I almost feel like telling Mr. Sibbald that he must have been down taking some lessons from me, because our systems are pretty much alike. I have carried on the business of out-yards for over twenty years, and I never have much trouble with swarming and Mr. Sibbald has given you pretty much what it really requires. Regarding the ventilation of the hives, I always make a practice in the warmest weather of raising the cover and leaving it raised night and day. Always use the wedges in all around. I would not block up under any circumstances because I have tried it and have quite proved it. They seem to have an awkward disposition of getting into their hive, whereas if they go in at the front they have something to climb up. Eradicate all the old brood combs you possibly can. Another thing is try to breed from a queen that is not inclined to swarm. As a matter of fact I have often come to the conclusion and I actually believe we can work that non-swarming nature into our queens by keeping back the swarming.

Mr. Haberer: We have not had over five per cent. swarms these ten years, and this year from 275 colonies we had about a half dozen swarms, and most of these were caused from superseding. My son never could find swarming cells, and he examined the hives every week; he wanted to find some and could not, except some in the supers from raised combs.

Mr. Sibbald: The matter of attention makes quite a little difference. If our friend Mr. Haberer, had time to super just when the top super was two-thirds full, that was just the time then when swarming could be prevented; but, if he had to go around to different yards and the work got ahead of him, then that would be a better proof whether his bees were of the swarming strain.

Mr. Webster: Out of ninety colonies I did not have any swarms at all. Previous to the honey flow, for about a week, I suppose, I moved three combs up above into the super: these had most of the brood and very little honey. I placed a foundation before that or else may be combs, and I have not had a swarm at all. Previous to that they swarmed a great deal and it seems to me that it is not necessary to change your strain of bees to prevent swarming.

Mr. Young: Do you mean families of the strain or do you mean different races of bees?

Mr. Sibbald: I mean different strains of Italians for instance. Some Italians will swarm and others do not seem so inclined to swarm.

Rev. J. Moore: Swarming does not trouble me any more. I was very well satisfied this year. Out of 100 colonies I just had one swarm. I am a minister and have come here with five of my church members. There is a bee-keeper here who is a member of my flock, and to whom I have been giving a few lessons on bee-keeping. My pupil, who had thirty-eight colonies, did not see a swarm this season at all. I emphasize the selection of the strain. Better emphasize young queens. Why should you have old queens to supersede in your honey flow?

Mr. Heise: I think it matters very little what the method may be, the successes attending the efforts will depend perhaps on two or three things: the first may be, keep thoroughly familiar with the condition of every colony in your yard; secondly, do the right thing at the right time: thirdly, keep well ahead of your bees, and your method will be a success.

QUESTION DRAWER.

Q.—What would you do with a hive of laying workers?

Mr. Armstrong: I would take out those combs and use them in some other way in the yard. I would never tinker with fertile workers.

Mr. Pettit: I have always been giving the advice that Mr. Armstrong has given until last season, when a test was made of the "smoke method" of introducing a queen. The colony is closed, leaving just a small opening at the entrance, and about three good strong puffs of smoke blown into that opening, which is then closed for about fifteen seconds, until the bees in the hive get up a real good roar. When they get to this state the opening is opened again, the queen is run in and the opening closed for a little while afterwards. The hive should not be disturbed for several days after that. The colony with laying workers is most difficult to make accept a queen, and yet a queen was successfully introduced into one of these colonies by this method.

Q.—Is it profitable to extract buckwheat honey and feed on sugar syrup for winter stores?

Mr. Armstrong: I would say that depends on the price you could get for buckwheat honey. If you could get seven cents a pound for the honey I would say extract it and feed sugar syrup. Another thing that would make me say that is that I would know that they would winter on sugar syrup better than on buckwheat honey.

Mr. Byer: I would say extract if I could get ten cents.

Q.—How would you get thick honey out of the comb at this time of the year?

Mr. Armstrong: There was a time when people used to laugh at me when I mentioned bee escapes because the honey would be cold to extract. You would almost think that they had to dig it out with a spoon. We have a lot of natural gas in our section, and so we have gas in the honey house; warm the honey up in some way. We just run our honey into the honey house, get the temperature to about 80 degrees, leave it there for 24 to 48 hours, and then have no difficulty.

Mr. Krouse: I thought that that could not be overcome at one time too. This year I got a gasoline engine and I find no trouble in extracting cold honey, but you cannot do it by hand: that is too hard work.

Q.—Will the thin honey in combs sour in winter?

Mr. Armstrong: It certainly will. It won't sour as long as it keeps cold and temperature is low right along, but as soon as it warms up it will ferment.

Q.—do bees always build queen cells from worker cells in case of superseding the queen?

Mr. Armstrong: I have never seen any difference from worker cells and in the natural way. My experience has been that they are built out the same as any queen cell would be. I have always found them in about the same position on the combs, but have noticed in a great many cases that they would be larger and drawn out longer than in the ordinary. In exceptional cases they will supersede when minus one leg; I have had them with one leg off close to the body and that queen would do good work for two years.

Q.—What is the most saleable honey package on the market?

Mr. Armstrong: The most saleable one that I have been handling for some time now is the five-pound lithographed tin pail, and a two and one-half-pound lithographed pail. My honey has all gone out in that the last four years. That is what the north-western trade wants now.

Q.—How can I make labels stick to tin?

Mr. Sidney Robinson, Vasey: You can put a label on a tin can that will stay there almost any length of time. Break an egg into a cup, stir up the yolk and white together, and with a brush spread it on the labels; take a damp cloth and rub it over the tin to take off the dust, and put on the label with the brush. Let them dry on in a moderately cool place. Even if you put your pail in hot water after that process it will take a long time to get that label off.

Mr. Burkholder: We get a gummed label printed for a very little more than an ordinary plain paper already gummed. I use a small sponge and some water and can pick these labels up and stick them on pretty nearly as fast as you can count them. If you use ordinary vinegar they stick right to the tin.

Q.—How would it work to wrap candied honey in paper?

Mr. Armstrong: I think the Root people have something along that line. About two years ago that was talked up pretty well, but this last year or eighteen months I have not seen much of it. There was a factory down east that was running out paper pails. I went through that part of the process, too. They did only for a while, but after the honey stood in them it began to soak through and looked like grease.

Mr. O. L. Hershiser, Kenmere, N.Y.: It is a very bad plan to let your locality know anything about 2½ and 5 lb. pails. Our customers know about nothing but a 10 lb. pail.

Mr. Armstrong: They know it already, and that is what they call for. Two-thirds or three-fourths of the honey was in 2½ or 5 lb. pails. A 10 pound tin is nice to hand out; but they have passed that and want something smaller, and we have to give it to them.

Q.—Which is the best, cellar wintering or outside?

Mr. Armstrong: Taking it all around, the outdoor wintering will give you the most promise of honey. There may be something in being far enough south, but I know of ones from the north who winter outdoors.

Mr. Chas. Blake, Snow Road: In a case where the bees cannot fly from the last day in October until the 15th of April would you attempt to winter in the cellar or outside? We have a six months winter. I like to winter outdoors myself if I can do it.

Mr. Armstrong: I never wintered in the cellar, so cannot speak from experience.

Mr. Dickson: As for wintering outside down east would say I have tried both and I fall back on the cellar. There are two ways of looking at it; there is a financial as well as a safe.

Mr. Blake: As for finances, it takes much more outside than inside, and I think there are compensations. You come to have those bees there consuming honey all winter, and I am afraid they will not winter. I have tried wintering out-of-doors on a very small scale, and it was a blank failure. I just packed them in a case with sufficient packing, but there was sufficient cold going in at the entrance to keep the temperature down.

Mr. Sladen: We winter very successfully at Ottawa out-of-doors.

Mr. Blane: Our bees winter perfectly in a cellar with about an inch of running water in it all the time.

Mr. W. W. Webster, Little Britain: Could you winter a nucleus out-of-doors?

Mr. Armstrong: I would reduce it to as few combs as it would cover, using a division board, and fill in the space with packing. With a young queen and young bees I have wintered them as small as two combs covered with bees.

QUEEN REARING.

John A. McKinnon, St. Eugene de Prescott.

I first started with black bees, then I bought Italian queens of five different strains. The second year I got rid of two of these strains as they were too cross. Like most beginners I had a fancy for very yellow bees, but I soon found out that they were not suited to my locality—they spring dwindled badly and consumed the most of their surplus honey in raising bees after the close of the honey flow. The only way I could raise a profit from these was to divide them about the 1st of August by giving them a new location, and giving a young queen at the old stand.

After experimenting carefully with various strains of blacks and Italians I find there is a difference of at least $10 between the poorest of the yellow or black queens and the best leather colored, taking colonies of equal strength in the fall, and queens of the same age. I have had this demonstrated in my yard for four years.

In choosing a breeding queen I want one whose daughters are copper colored. I find that these dark queens when purely mated produce honey getters that will average in a good season 100 lbs. more than the blacks or light-yellow bees—that is, in years which give me 100 lbs. from blacks or goldens I got as high as 250 from my leather colored stocks. In the last two seasons I have got rid of all my blacks and goldens, and, as I keep bees for profit, in future I shall keep only leather colored ones. Before getting rid of my blacks I tested different strains of Italians as to longevity. About the end of August I took a frame of brood in all stages from my prospective Italian breeders and put it in a hive of blacks. These colonies were given similar usage, were put in the cellar last and taken out first in the spring and placed in a part of the apiary by themselves. I closed their entrances when I removed the main force of bees from the cellar, so as to avoid any mixing of bees. The most of those tested strains disappeared about the 1st of June, but I found one whose bees did not disappear entirely until the middle of July. This queen was not prolific, in fact she never went into the second storey though no excluder was used, but she was one of the most profitable queens I ever had. I raised about 80 queens from her, some of which will be in their fifth year in 1914, and I consider them good enough to winter.

It is impossible to tell by the color of a queen's workers whether her daughters regardless of mating, will breed true to color or not. I have had queens whose workers were all 3 to 5 banded—very yellow Italians, that (judging from a breeder's viewpoint) were only hybrids, that is 50 per cent. of the daughters of these queens would show strong traces of black blood in their workers, varying from golden five banders to pure black, goldens predominating. In the same yard I have had other breeding queens whose daughters would average 99 per cent. pure mating, so I came to the conclusion that this black blood was in the goldens. However, it is a simple matter to take a pure strain of Italians and breed them back to blacks. By choosing dark queens and re-queening every colony for four generations, I could eliminate the Italian blood altogether, as far as color goes. All that would be left of them then would be their stings.

I would not use a queen as a breeder whose daughters vary much in color, and I also want their workers to be dark evenly marked three band Italians. The only way to judge these workers properly is to take out a comb and allow them to gorge with honey as these dark Italians would very easily pass for hybrids, with an ordinary examination, while a hive of goldens containing 20 per cent. black

blood would pass as pure to an inexperienced apiarist. I usually test, as queen mothers, a few queens of the current year's rearing; when I find one that suits me I breed from her as long as she lives.

Now in regard to drone mothers, in my yard of 200 colonies I use about the equivalent of twenty full frames of natural built drone comb. In the spring when I make a general look over the whole yard I remove all drone comb from colonies that I don't want to use as drone producers and exchange it for worker comb with my best drone mothers; in this way I can control the drones fairly well. I tack a piece of cardboard on all colonies that I wish to use as drone producers, thereby being able to tell at a glance just where are my drone mothers. I have spent hours, yes—I might say days—in watching different colonies at work, and from this observation I find there is a vast difference in the working qualities of individual colonies; but I feel safe in using as breeders the queens that give me the most honey. I never use swarming cells for the simple reason that according to my management, I am not breeding for swarming queens. I have twenty four year old queens that I am wintering. During those four past years they have never swarmed, no treatment has been given other than plenty of room and ventilation, and we have had the two extremes in honey years. On the other hand I have another four year old queen that has swarmed every year, but I keep this queen on account of the gentleness of her workers. I am fully convinced that this swarming business is in the blood, other arguments notwithstanding.

Preparing in the spring to start Queen Rearing. Having found my breeding queen, (that I had marked the previous year) lively, I next try to find a colony that is superseding its queen. As I look through every hive anyway to clip any queens that have not already been operated upon, I then mark any that are found superseding; their cells are destroyed at once, and the mark on their hive enables me to find it easily when wanted. If they are weak in brood, 2 or 3 frames of sealed and hatching brood are given, as it is useless to try to raise good queens with a weak force of old bees. One of the side combs is removed and space made in the centre to receive the grafted cells. I look over the combs in this colony every nine or ten days as they will frequently start other cells of their own. I then feed those twice daily, using a pint paint can, with two awl holes in the cover, full of warm feed. At the beginning of the honey flow, when some colonies are strong enough and have brood in two stories, I simply graft twice as many cells as I expect to need, and place them in strong colonies having brood over excluders. I like to have a surplus of cells at all times when I am raising queens, as I find it does not pay me to bother with virgin queens in nursery cages, but more about this later.

How to Secure Suitable Larvae. I first make a colony queenless, leaving them only sealed brood and a good force of workers. I then place a frame of old, dark, worker comb in the centre of my breeding queen's hive. If no honey is coming in, I feed to induce her to lay in this comb. The second day, after the first eggs are laid in this comb, I give it to my queenless colony, which has only sealed brood. Having a large force of workers, and hundreds hatching, they go to work at once to feed these young larvæ. I frequently find cells three-quarters full of pap food before they have hardly started to convert them into queen cells, and out of this comb I can get two or three hundred queen fed larvæ, or as many as I want to use at one time. I then transfer the larvæ and royal jelly to the cups, at one operation, for which purpose I use a small hardwood stick polished smooth and slightly bent at one end. These cells are now given, over excluders, to strong colonies—queenless or supercedure colonies, depending on the season, or what I have ready to accept them. As I raise all my queens by the prepared cell method, I prefer Italians to blacks or hybrids, for finishing the cells as I have found

out that the Italians are less apt to start other cells of their own, over unsealed brood in the comb. In fact, they so seldom start other cells, that it isn't worth my while examining the combs; they seem satisfied to attend to the cells given them, providing the cells are given within 24 hours of their brood being put over an excluder. As for the blacks or hybrids, they will keep starting queen cells as long as they have brood young enough to do so, a lot of these cells being not much longer than capped drone brood; but if I should miss one of them, this virgin and the bees will destroy all my others.

When a bar of cells is given a colony, the date is marked on the front of the hive. Ten days later these cells are ready to distribute to the queen mating nuclei.

Now as regards virgin queens, I have experimented with them a good deal, and while at times they can be used to advantage, I much prefer having a surplus of cells. The whole trouble with virgins is that it is hard to get the bees to accept them after they are more than a day old; but if a nucleus is given a good smoking, when all the bees are in, and allowed to gorge themselves with honey, a virgin can very often be safely introduced. I have tried the plan of caging one virgin over a nucleus having a six day old virgin; 90 per cent. of virgins so caged died in the cage, and those that were accepted, after the first virgin was mated and laying, were worth about ten cents. If buying wholesale I would not care to pay more than five cents apiece. The trouble with them seems to be that they wear themselves out in the cages. In re-queening unprofitable or mismated queens I have used to advantage virgins just hatched, if I am in a hurry and have plenty of virgins, I often run one in at the entrance of the colony where I want to supersede an old or failing queen, using a little smoke, and if some honey is coming in, about twenty-five per cent. of the virgins so introduced will supersede the old queens. If the old queen be stung by the virgin, her body-guard will stay with her outside the entrance for a couple of days, while if the virgin gets the worst of it she will be kicked out and no more about it, but as I would kill these virgins anyway, it's a small loss.

Bees Balling Virgins. If a virgin, on returning from her flight, goes into the wrong mating box she will be balled. When I find one so, I pick out the ball and pull the bees off by the wings using a little smoke; if she has a shiny or greasy look I usually kill her at once, but if she seems quite spry, I place her in her own hive, which is generally the nearest one. I can tell when one of these nuclei is queenless as soon as I pull off the quilt; if they have just lost their queen they will be found gorged with honey, and chasing each other around like a flock of sheep, that is if they have no brood, and will not be clustered in a compact form as usual.

To Make a Profitable Nucleus. I use two kinds of mating boxes, the full depth nine frame hive, with division board in centre and inch auger flight holes at opposite ends. I also use these to winter surplus queens, which come in very handy in the spring. However, the most of my queens are mated from half-depth or divisible brood chamber hives, with two division boards making three apartments, each taking two of the half-depth frames, one flight hole for the centre division is made at the end of one-half inch augur and one at the centre of each side. Very few queens make the mistake of entering the wrong apartment, as the entrances are far enough apart to be different, even though the virgins and bees should happen to take a play spell and flight at the same time. Virgins usually take their wedding flight on the afternoon of the 5th or 6th day and are found laying about the 10th or 11th, depending on weather, honey flow, and flight of drones.

I winter what bees I intend to use for queen rearing, in divisible brood chamber hives. It does not pay to draw brood from honey gathering stocks, to

form nuclei in the spring, so I set aside a certain number for this purpose. Nine or ten days before I expect to need them, I take enough of these little combs of brood to fill a storey and place it over an excluder, making sure that the queen is below; if the colony is a fairly strong one, a set of empty combs may be given under, so when the top brood is removed, the colony has still the same number of combs. On the tenth day after starting the queen cells I take from these the nine frames of brood, with adhering bees, one frame for each apartment of three triple mating boxes; at the same time a ripe queen cell is pressed into the comb as close to the brood as I can get it, no protector being used, a frame of honey is also given. The little entrances are plugged with grass, the covers put on and set aside in the shade till evening, then they are placed on their permanent stand for the season and the grass removed; by morning they will have settled down. However, should one only of these apartments have unsealed brood at the first, it may draw most of the bees from the other divisions, so that in forming these nuclei I see that they all have the same. I more often take brood and bees from different colonies, so they are less apt to unite and leave one division beeless. One of these small frames three quarters filled with sealed brood and adhering Italian bees, with a comb of honey will last out the season providing every second queen that has mated is allowed to lay four or five days so that some of the eggs have time to hatch into larvæ. If she is removed before any of the eggs have hatched, the bees will destroy all but a few of the eggs, over which they will build queen cells. As a rule those nuclei will accept a ripe queen cell a few hours after their laying queen has been removed. I generally leave them queenless about a day. If it should happen that I have to distribute a batch of queen cells on the same day that the queen is removed I use a wire cell protector, but I don't like them for use in those small nuclei, as the cells frequently chill and are late in hatching, and in cool nights they may die outright. I always use the protectors when cells are used to re-queen strong colonies. It saves trouble in hunting up the virgin as these strong colonies will nearly always destroy cells after virgins have hatched.

At any time when honey is not coming in, bees, if they are not fed, will destroy queen cells. At such times the only safe place for a surplus of queen cells is in a strong colony made queenless and broodless. Drones can be kept as late in the season as bees can fly, that is in the queenless colony. I allow this colony to raise a queen and remove her as soon as hatched and give a frame of eggs and young larvæ. If left with unsealed brood laying workers are pretty sure to show up, if the bees are Italians. The blacks are not so bad in this respect. If a virgin should be left in this drone colony till mated, the bees will begin to ill-treat their drones either by chasing them out, or keeping them away from the unsealed honey. This colony should be fed every second day, so as to cause the bees and drones to have a vigorous flight on such days as virgins can fly.

Mr. McKinnon then illustrated some of the points he had been making by means of parts of his queen rearing outfit.

Mr. Elliott: I have some leather colored Italian bees and I was going to ask the question: have you ever tried any more than one or two different strains of the Italian queens to form your opinion.

Mr. McKinnon: I have only had two strains, and consider that enough for my location.

Mr. Elliott: Don't you think that there is a difference in the strains of your dark or leather colored Italians.

Mr. McKinnon: Yes.

MR. ELLIOTT: You admit, then, that there is a difference in the strains of golden Italians. I am finding no fault with the leather colored Italian bees, but if you get the better strain in breeding queens, I believe we can breed golden Italians and have just as good success both for wintering and supplying cells as you can with any other race of bees that you can breed.

MR. MCKINNON: They seem to dwindle away in the spring; they seem to be strong enough in nurse bees, but there are no field bees. After the weather warms up they go to work and build up rapidly, but down where I come from we have no fall flow. The last few years I had to feed the few goldens I had both summer and winter. These are the queen cell protectors. A bunch of wire costing five cents will make twenty of them. In using them, press in the cell and put on the tin cover. In re-queening strong colonies they come in very handy. Spread the frame apart and drop it down into the frame and the queen is allowed to hatch.

MR. ELLIOTT: Before leaving this matter of preparing young larva for the queen cells, do you find it necessary, with your method, after placing those eggs into the queenless colony, to use royal jelly in your transferring after that?

MR. MCKINNON: Not always. This is how I put the queens into the cages. First I find the queen, then I try to grab her by both wings if I can; if not, get her by one wing. I transfer her to the left hand, and close my hand, making a little pocket. I take the queen cage and hold it so that she will run up into it, then throw enough bees in with her and fasten them in.

MR. LUNN: I have had a little experience this last two or three years, and I find that that cage that you have there is not large enough for early shipping. Last year and this year I received queens from a breeder in the Western States, and part of them were shipped in that small sized mailing cage and some in a cage twice as large. Those that came in the larger cages were all right, but those in the smaller cages were superseded afterwards. A few of the bees in the smaller cages were dead, and I marked the hives that I placed the queens in and every one of these queens was superseded before the season was over. If this is the case, it is time the smaller cage was done away with.

MR. DONALDSON: I purchased queens from long distances and found the small cages all right and very few of the bees died.

MR. LUNN: Don't you think that a queen in a large cage with plenty of bees would be in a better state to stand the cold in the early spring? I will be careful and order queens in a large cage after this or not at all. Those bees in large cages were smarter and the queens in the others were dull, and I felt that I would rather return them than use them.

MR. MCKINNON: I have used both cages, and when bees are only going a short distance I think the small ones are large enough if the food is well prepared and not too hard.

MR. PETTIT: What do you consider the best method of introducing?

MR. MCKINNON: You have me now. I have introduced queens by pretty nearly every method I have read in the different bee journals, and I have also lost some by every method I have ever tried. I believe that this New Millar Smoke Method is about the best and the one I would recommend.

THE PRESIDENT: Would you mind describing that method?

MR. MCKINNON: Blow three or four puffs of smoke into the hive, then close the entrance and leave it for ten or fifteen seconds. After the queen has run in at the entrance a couple more puffs of smoke are blown in and the entrance closed again. After a little while the entrance can be opened.

MR. ELLIOTT: I would like to ask Mr. McKinnon if he ever found any difficulty in introducing virgin queens by that method at any particular hour of the day. I used that plan to some extent this fall and had the very best of success with it, but I found that on one occasion I introduced fourteen virgin queens and lost twelve.

MR. MCKINNON: Were there any small nuclei?

MR. ELLIOTT: Yes.

MR. MCKINNON: I do not know why you should have met with any difficulty, but sometimes when the apartment is not fully occupied by the bees they scatter, and when you run in your queen she stays in one corner of the hive, and after awhile they find her and ball her.

MR. ELLIOTT: Mine were introduced in the middle of the day. I had an idea that those young virgins should have been left with the nuclei. I never find that difficulty in introducing them in the dusk or evening.

MR. MCKINNON: As a rule they will be found at the entrance in the grass.

MR. MCEVOY: Will that plan work with the supers on?

MR. MCKINNON: I have never tried it, but I do not think it would work.

MR. LOWEY: I think it is all right if the hive is fully occupied with bees.

MR. CHRYSLER: I might say something about introducing queens by that smoke method. Before I knew the particulars or got any instructions I had some queens to introduce. They were laying queens and I had to form my own ideas how to do it, and not having instructions I did not close the entrance at all. I merely smoked my bees to a condition that they would be submissive provided they were handled at a time when they were cross. I got them under submission when they were buzzing. I took my queen cage and opened it out and got the bees in the cage buzzing too. They flew out and crawled into the hive. The hive was full of comb and plenty of bees. I do not think it matters whether there are supers on or not, if you get the bees in the condition to accept.

MR. LOWEY: Be cautious how you open that cage or the queen will fly away and you lose her altogether.

MR. MCKINNON: The best plan is to clip both wings. They are apt to supersede if you clip only one.

MR. PETTIT: We always recommend that you clip one wing, which makes the queen one-sided and in case of swarming she cannot get so far from the entrance. The queen should be clipped in that one-sided way. Now Mr. McKinnon comes along and tells us that this is wrong, and we are liable to challenge his statement, that is all.

MR. MCKINNON: I have some four year old queens that have both wings clipped off as close as I can clip them, and they are doing good work and I am wintering them. It might damage them for laying purposes but not very much. When I move a queen cell I have an index card with the dates of the month from 1 to 31. I always have the three letters, "C" for cell, "V" for virgin, and "L" for laying queen. I move this about short hand to the letter "C" and I move the long hand to the letter "V." The next time if I come around and find that a virgin has hatched, I simply move this hand to "V" and this one to the date on which I find she has hatched. I also number my queens. These are a few queen cells that I made just before I came up. You have to look before the bees have worked on them or prepared them to receive the larvæ. Here is a frame of cells that are all ready for grafting; the bees have had them for a total of twenty-four hours.

MR. CHISHOLM: Do you put those cells in the nuclei before you graft in the larvæ?

MR. MCKINNON: These are given to a strong colony to be polished out before the larvæ are grafted in. If they are grafted in the rough cups, the bees are very apt to clean them all out, but, if the cells have been polished up by the bees first, then grafted, they are more apt to be accepted.

MR. SIBBALD: Would you leave them in 24 hours before you grafted the larvæ in?

MR. MCKINNON: It all depends on the strength of the colony and on the season.

MR. MOORE: How many cells do you give them for that purpose?

MR. MCKINNON: I am satisfied if I get twenty good cells.

MR. MOORE: Do you think you have better results if you put in about a dozen?

MR. KROUSE: I want to tell you how I introduce my queens in the outyards. I make my colony queenless in the morning in the honey flow. I go through all the colonies that I want to re-queen and make them queenless, and then the last thing I do at night is just to let my queen go on the lighting board and let her crawl in. I make it a point not to touch that hive in any way to jar it. In all that I have tried in this way I have only lost one so far, either virgin or any other kind. I do not use smoke or anything like that, but when the bees are quitting work introduce the queen.

MR. DICKSON: I would advise all beginners to fall back on the smoke system as that is the safest way.

MR. I. D. HOUSE, Camillus, N.Y.: There are more queens lost through meddling with the colony after the introduction is performed than in any other. They are anxious to see whether they have been successful and, in using more smoke, frighten the queen and she becomes balled after she has been properly introduced. After you have made the introduction, leave the colony alone until she has settled down.

MR. HERSCHISER: It seems to me that the most of the discussion is about the smoke method and nothing said about other methods. There is another method that I have always used, and I do not remember ever having lost a queen. With a small cage of wire cloth, cage the queen over some brood and honey in the hive where she is to be introduced. Go to the colony twenty-four hours afterwards, lift the cage off and the queen is introduced. This method is not a slow method. Have these wire cloth cages all ready, go to the colonies where you want to introduce the queens. Punch a small hole in the wire cloth and put in a few bees; then take the queen out of the cage, let her run in and plug the hole up with wax. If it is not convenient to go to the colony and take the cage off next day after introducing the queen, bore a small hole through the opposite side of the comb so the queen will introduce herself or so that the bees can liberate her two, or three days later.

MR. W. S. WALTON, Scarboro Junction: There is not the slightest doubt that the Millar method is simple and easy and will be practised by a number of beekeepers. There are hundreds of queens lost every year by introduction, and the Millar method no doubt will be used quite extensively on that account. There are safer methods than the Millar method; they take more time but they are safer. Some people, in buying five or ten queens do not want to run the risk of the Millar method.

MR. SLADEN: It is much safer to introduce a queen after they have been fed up.

MR. C. BRUECKNER, Baden: If you sprinkle the bees and the queen with a little peppermint, they will all have the same odor and they will accept her.

THE ASSOCIATION ORGAN.

Mr. J. L. Byer, Vice-President, was called upon to report the action taken by the Executive Committee during the year with reference to the organ of the Ontario Bee-keepers' Association. Mr. Byer stated that owing to the unsatisfactory conditions under which the *Canadian Bee Journal* was issued in the year 1912, the Executive had decided to withdraw from its agreement with The Hurley Printing Company, and, after considerable negotiations, had made the following arrangements with The Horticultural Publishing Company of Peterboro. The latter company was to publish a special edition of *The Canadian Horticulturist* in which should appear at least five pages per issue of matter relating especially to the bee-keeping interests; to call the edition *The Canadian Horticulturist and Bee-keeper* and to emphasize this name on the front cover of each issue where it is possible to do so; also to mail complete copies of *The Canadian Horticulturist* of this edition to all the members of the Ontario Bee-keepers' Association, whose subscriptions they received for seventy-five cents a year each, all expenses involved in the publishing of this edition of *The Canadian Horticulturist,* in the printing, contributions and illustrations, to be borne by The Horticultural Publishing Company. *The Bee-keeper* started publication on May 1st, 1913, and members have been receiving it monthly since.

Mr. H. B. Cowan, Managing Editor, Horticultural Publishing Co., then explained in detail the matter of taking over the publication.

Postal Rates on Agricultural Journals.

Mr. Cowan: I hesitate to bring this matter before you because it might seem a personal matter, but still it affects the bee-keepers. In everything that I say I am speaking for the agricultural papers of the Province. At the Department at Ottawa there seems to be a misunderstanding as to the importance of the agricultural, horticultural and apicultural press, with the result that there seems a tendency to make regulations which would put them out of existence. The situation has become so serious that the Press Association met all day yesterday and are meeting again to-day, and we felt that a resolution of this kind would have a material influence too on the Government. The following is the resolution:

"Resolved that we, the members of the Ontario Bee-keepers' Association, representing the bee-keepers of Ontario, many thousands in number, having heard reports that it is proposed by the Post Office Department to make changes in the Postal Rates that will have the effect of discriminating against agricultural, horticultural and apicultural press, desire to express our belief in the value of these mediums and the opinion that they have possibly done more to benefit the farmers, fruit growers and bee-keepers of Canada than any other factor;

"Furthermore, we would venture to express the hope that in any regulations that may be enacted by the Government, the Postal Rates granted to the agricultural, horticultural and apicultural press shall be as favorable as those granted to any newspaper or other class of publication;

"And, furthermore, that any postal regulations that would tend to confine the circulation of these papers which are Provincial and National in character, to local fields would in our opinion be detrimental to our people and that of farmers, fruit growers and bee-keepers in general throughout Canada."

Mr. Pettit: I consider that this question is an important one. There is no time to go into the details, but I understand that certain postal regulations are

liable to be passed which will interfere with the wide circulation of agricultural papers; for instance the *Bee-keeper,* which is our organ, is also the organ of the New Brunswick Bee-keepers' Association, and may become the organ of other Provincial associations, and this regulation would interfere with its being sent to members in other provinces; that is, the circulation would be very much reduced and the result would react on us, whereas the publishers would not be able to give us as good a paper. It would be in order for someone to move that this resolution be passed, and I think we could dispose of it best in two or three minutes.

On motion of Messrs. E. T. BAINARD and BLAKE MILLER the resolution was adopted.

Moved by MR. NOLAN, seconded by MR. KROUSE, "that owing to the fact that in addition to many other benefits, the members have been receiving *The Bee-keeper,* which costs the Association 75c. per member, and that the great increase of members received through affiliated societies makes the loss of 25c. each too heavy a tax on the resources of the Association, be it resolved that the fee for members received through affiliated societies be 75c. instead of 50c., this change in the constitution to come into immediate effect."

MR. NOLAN: In speaking of the motion let me say that affiliated societies on payment of a membership fee of 50c. per member are made members of this Association. The regular fee is $1. The premium costs us 75c. The question is this: we are receiving 50c. per member and we are giving them as a premium *The Bee-keeper,* which cost 75c. We are thus at a dead loss of 25c. each per member. Last year the Department increased our grant to the extent of $200 but our membership has increased from 529 to nearly 1,500. Are we satisfied to bonus members or would you rather have them come in on a self-sustaining basis? I move the resolution that members from affiliated associations be charged a fee of 75c. each instead of 50c. and come in on an even basis. The affiliated associations necessarily would have to make some changes. It reflects on the Association to go out and buy people to come in here.

MR. BYER: It seems to me an absurd thing that we have to bonus members in that way. If any member did withdraw from the Association because of the extra 25c., we will not go into mourning about it.

MR. ARMSTRONG: I am certainly in favor of the 25c. raise for the simple reason that it seems too bad to have the Association carry us along in this way.

On a vote being taken the motion was carried.

MR. SIBBALD: You have made an increase in your membership of 200 per cent. You should do just the same as you did last year: go and see the Minister of Agriculture and tell him how well you have been getting along and the difficulties you have in financing it and, if they are on as good terms with us as they were a few years ago, they will increase our grant. They said: "Go and do something and we will help you."

I have pleasure in moving that the same Committee that visited the Minister of Agriculture last year go back and see him again this year and see if he cannot help this year. The same Committee has been appointed.

THE PRESIDENT: In explanation I might say, the same Committee has been appointed and strengthened somewhat. Last year there was one and this year there are three. If we make some changes here and show the Minister that we are doing something and would like him to help us, we are more liable to receive assistance.

QUESTION BOX.

(Answered by Mr. Donaldson).

Q.—What causes robbing by bees, and how can it be stopped?

A.—That is a thing which will trouble beginners mostly. Robbing is generally caused by handling the bees when honey is not coming in, and in such a careless manner that honey is exposed. I use a portico on the front of the hive which gives it protection from the robbers, and in the evening remove that screen. Weak colonies are always the worst; keep them strong.

Q.—What is the best all-round stand for a bee-hive, and why?

A.—I might say in my own case I use a stand made out of cedar planks, for the simple reason that cedar will not rot very readily. Cement would possibly be better, but as I have these stands for a couple of extra colonies, I use them.

Q.—Is not the cause of the rapid spread of foul brood due to the existence of small bee-keepers who do not attend conventions or demonstrations?

A.—I would not say that it is not attending conventions, because this is the first season I have attended conventions myself. At times there is a danger from the smaller bee-keeper. A farmer who has only a few hives of bees and is not making his living does not care much, and is not liable to find foul brood in his hives. We ought all to know the disease. Suppose an inspector inspects our bees, finds we have foul brood and tells us to treat our bees, how is he going to know that we follow the instructions out? That will depend on our carefulness.

Q.—How can we keep our new swarms from leaving the hives?

A.—Mr. Sibbald gave us an address on non-swarming. We have been working more along that line. I don't allow swarms in my hive, but occasionally we have one. I should say in hiving your swarm I prefer to put it in the shed; if that shed was not handy I would put some cover over them and put an extra super for them.

Q.—Who should keep bees?

A.—A man should have some natural liking for bees before he should embark on the bee business. That should be the first qualification. A young man beginning in bee culture should have lots of "stick-to-it-iveness."

Q.—How is it that in a neighborhood where Italian bees are left to themselves they seem to revert to the blacks? Is it because of the "survival of the fittest?" Is it because the blacks have more vitality? Why do the Italians predominate when we have more blacks?

A.—I have never seen a satisfactory answer to that question yet.

Mr. Burkholder: Is it not true that in the natural course of events in animal life, vegetable life, and with the human race, that the natural tendency is to degenerate? That is the whole thing in a nutshell.

ONTARIO BEE-KEEPERS' ASSOCIATION.

Dr. G. C. Creelman, President Ontario Agricultural College, Guelph.

There was a time, and that not so long ago, when it was believed that the poultrymen in this Province were the most enthusiastic set of agriculturists in the country. They talked about their business all the time; had conventions fre-

quently; went in for large exhibitions with an enormous number of birds at each show, and at these exhibitions you would see them always about the pens ready to talk poultry, to buy poultry or to sell poultry. They never seemed to go to bed at nights and were "on the job" from daylight to darkness, and from darkness till daylight again.

Now, I find that the men who are interested in bees are taking up the work in the same spirit. Letters are coming to my office all the time, and your Secretary, Mr. Pettit, tells me that your correspondence has increased by leaps and bounds. I also know it by the increased amount of money that he is spending to have his work done.

It seems to me that there are three things that might be emphasized in your business.

1. *Enthusiasm.*—In every business or Association a few men have to stay at the work in season and out of season until they get a large number enthused over it. By and by the right man comes along who has the ability to organize and plan and carry out his ideas, then with the help of those who have stayed with the work all these years, the Association blooms out and becomes a real live business venture. After that, it seems plain sailing, but if the enthusiasm of the officers were to stop for a year it would soon fall back into its old place. Enthusiasm is infectious to both old and young. The older and more staid members of the Association like to see new blood introduced, their old ideas put into new forms and the results of their plans carried out.

The younger members, with the natural enthusiasm of youth, are easily carried along, but they must have good leaders strong in the faith.

The second thing required now-a-days is *Scientific Knowledge.* In your business, as in many others, things have often been left to chance, and rule-of-thumb methods having been generally the practice we are inclined to guess at things a good deal and then blame Providence or the season for the consequences. An exact knowledge of any business not only gives a man confidence in it, but he has always the satisfaction of knowing that he has done all that one man could do in the solving of his difficulty. It is remarkable when a man gets this far how many hands are stretched out to help him forward to greater things. Any man who knows how to do things well will always get on.

At the College we have been trying to find out all we can about the practical as well as the scientific side of the bee business. We find that the chemists and bacteriologists are both necessary, and in these Departments we find our Agriculturists get scientific knowledge to help them.

The third thing we must have is *Co-operation.* Enthusiasm is good and necessary; Scientific Knowledge is necessary to success, but Co-operation is absolutely necessary if the country is to have the benefit and the individual is to get the most for his product. I am glad to see that you are co-operating now in the handling of your honey.

We have been enabled to train some young men with enthusiasm and knowledge to go about among you in the summer season and by bringing to you the information received at each place they can help you to co-operate one with the other, in spreading the latest and most up-to-date information through the whole Province.

I hope that you will use these young men just as much as you can, ask them all the questions you can think of and give them all the information you have. I hope that these young men are sufficiently modest to admit they are

just learning themselves, and sufficiently honest to give only reliable information when they come to you. I trust also that they are sufficiently enthusiastic and energetic that they may do the greatest good to the greatest number in the short season they have in the field.

Now may I say one thing more? The present Government have been far-seeing in the establishing of trained Agriculturists in our several Counties. They are holding short courses in Stock and Seed Judging and are ready to take up the subject of Apiculture. Each of you as you return to your homes ought to see the young man in your County and get him to help you. Use his office for the formation of a local Association and have him use his assistants to boom your work.

I trust that you will have a splendid meeting, and everything indicates that you will. I hope you may each carry away from this meeting *Enthusiasm* for your work, more *Scientific Knowledge* of your business, and a desire to *Co-operate* with everybody else to the upbuilding of the business until the keeping of bees and the producing of honey shall become in this fair Province one of our greatest and most profitable industries.

INCREASING OUR CAPITAL IN BEES.

Mr. E. R. Root, Medina, Ohio.

I was considerably surprised when I came into the Convention Hall to see so large an attendance. It has been estimated that there are about three hundred and fifty people in this room this afternoon, and, although I have been present at several conventions on our side of the line, I have attended no meeting of bee-keepers that will at all compare with the number here to-day. I asked your Secretary, Mr. Pettit, how it was that the Province of Ontario could muster so large a number. He answered me with one word: "Advertising." I congratulate you on having a Secretary who knows how to advertise. And right here is often the difference between success and failure in business or in running bee conventions.

I have listened with a great deal of interest to the splendid address just given by President Creelman. It is very apparent that the Ontario Agricultural College is doing some excellent work in the Province. I could not help noticing from the car window that the farms on your side of the line show care and modern management. I was particularly impressed by the fact that your fruit-trees are better pruned than those in the United States. I infer that the men whom your Agricultural College is sending out are spreading the gospel of how to grow larger and better crops on the farm, how to produce more and better fruit, and, if you please, more and better bees. In this day and age, the man who will study, and not only keep up with the times but march a little ahead of them, is the one who will win in the end; and the principle applies not only to the management of the farm but of the apiary. A good beeman commands to-day a good price.

I hope you will pardon this digression, for I did not come to talk to you about more and better fruit and better crops, nor even a better grade of hired men, but how to increase your investment in bees, and to suggest the possibility of keeping them on the job eleven months in the year instead of only six.

A few years ago the late W. Z. Hutchinson, then editor of the *Bee-keepers' Review*, preached the doctrine of "more bees." That is to say, he meant that the specialist bee-keeper could, with but very little more expenditure of labor, operate more bees and thus make more money. I have not come here to-day to advocate the doctrine, although I believe in it for some people; but I have come here to tell you how you can get more bees; and in doing this I cannot do better than to describe what we have been doing ourselves.

Those who take *Gleanings* will know that we are trying out the scheme of moving bees to Florida, and increasing them to twice or three times the original number, and then bringing them back in the spring. Under ordinary conditions the bee-keepers' capital consisting of bees, hives and equipment, lies idle for about six months in the year. They not only bring in no returns during that time, but they are actually an expense because of the stores they consume and the time it takes to look after them; and during a severe winter some of this capital will shrink tremendously by a heavy mortality of the bees. The following spring their owner starts out with an insufficient force, and what colonies he does have are greatly weakened by spring dwindling.

I have for some years entertained the idea that it might be possible to practice migratory bee-keeping—that is, move the bees in December to the southland, where pollen and nectar could be secured throughout a good portion of the winter, and where it would be possible toward spring to secure a crop of honey, to pay the freight of the bees, and the cost of their care. But I have never felt quite ready to undertake the proposition on account of the great risk and the cost. But this year we are sending an experienced man in the person of J. E. Marchant with 300 colonies of bees down to Appalachicola, Florida. Born and reared on the Appalachicola River, from boyhood up he has been trained by one of the best bee-keepers in the United States, Mr. A. F. Marchant, his father; and, naturally enough, when he goes back into the region of his old home he will be familiar with bee-keeping conditions.

And here is the point I wish to make; that the average northern bee-keeper going into a strange and new locality in the South with a carload of bees will be making a doubtful venture. Sometimes it takes years to learn the peculiarities of a new climate, and for that reason I have never felt as if we could afford to send a carload of bees south unless we could send along with them a man who thoroughly knew the locality where he was going.

We started our carload of 300 colonies of bees Nov. 18, and just after I left home I received notice that the bees had almost reached their destination, and were in apparently good order.

Before the bees started I made arrangements with the general freight agents over whose lines the bees were to go, to see that the car was not delayed en route. I explained that the shipment was an experiment on our part, and that, if it proved to be a success, other shipments might follow later. The railroad people seemed to be much interested, and promised that the car should be shoved through without delay, as it was.

Now, then, as to what we propose to do with the bees. Our plan is to build them up to two or three story colonies, and run them for extracted honey. The titi comes on in that part of the South in January, and the bees begin rearing brood and gathering some honey. Other sources will be coming on and, if we succeed in building up the bees into powerful colonies by the time the tupelo flow comes on in March, we shall be ready to harvest a crop. The tupelo is a heavy yielder of

nectar, and, as our Mr. Marchant has had experience in running bees for extracted honey, we run a fair chance of securing a good crop of tupelo honey. After this has been taken, our plan is to split these two or three story colonies up into one story, load them on cars and ship them to Medina. This will make two and possibly three cars of bees. Even if we secure only the increase, the venture will not be unprofitable; but if we can secure an increase and a good crop of honey in addition well, we shall be very happy. In other words, our capital, instead of lying idle for six months in the year, will be kept active and earning money for ten and eleven months in the year. We shall have two or three times as many bees to catch the next harvest in the North. That is where we expect to make our money.

But this experiment may prove a failure. We may not find natural pollen when we get there with our bees. Without it we cannot make increase, even though we were to give artificial pollen. We may fail to get a crop of honey. And, even if we secure a crop and an increase, one or more of the carloads of bees may come back north in bad order. It is well to bear in mind that it costs about a dollar including a man's time, and freight, to get the bees south, and the same amount to get them back, so that there is a fixed cost of two dollars in freight to start on. It will take at least a fair crop to cover this expense. But the investment will be a good one, even then, if we secure any increase. If we get a goood crop, we shall practically double on our investment.

I would not advise very many to go into a project of this kind. If we succeed it may, perhaps be an encouragement to others; but anyone who undertakes it should first go south, find his location, and then spend a part or all of the winter with some good bee-keeper in order that he may become familiar with the locality into which he expects to move.

Perhaps ere another year rolls by, should I be fortunate enough to attend your convention I may be a sadder and a wiser man. Josh Billings said that experience teaches a good school, but the tuition comes rather "hi."

Very few would care to undertake an experiment of taking all their bees to the southland. Perhaps many have only a hundred colonies, but desire to make an increase. How shall it be done during the winter months? Most of you would say off-hand that this would be impossible—that if we can make the bees hold their own we shall be doing all we could reasonably expect. How, then, during midwinter, in a northern climate, can we make an increase among the bees?

Allow me to tell you of some of the experiments that we conducted last winter. We have one yard located at the Medina waterworks pumping station, about three miles from town. Along late in the fall I noticed that, owing to the exposure of a long windsweep, these colonies were beginning to dwindle in strength. It was very apparent that, in their condition, they would not be able to winter. The bees were Carniolans and, having swarmed excessively during the summer, were weak. But the bees were fed and doubled up in the usual way along during the months of September and October; but by the end of November they showed unmistakably that they were not going to be able to stand the winter. At the first snowfly we loaded them on a sled and put them in one of our cellars. We noticed that some of them were running short of stores and began feeding them cakes of hard candy. Along about the middle of winter our apiarist said they were rearing brood quite lively. I told him to give them all the candy they would take, which he did. Moving the bees during the dead of winter had stirred them up; and opening the hives occasionally to see if they were going to starve, and giving them cakes of hard candy stirred them still more. Now, the average

person would think this constant tinkering would result in the death of the bees before spring, and an orthodox bee-keeper would say that this would be exactly what would happen. The bees kept on rearing brood all winter, and this yard of bees was the strongest lot we had next spring. In other words they had increased from three or four frame colonies to eight and ten frame colonies at the time we set them out in the spring. Now, brother bee-keepers, it may appear to you that I am talking heresy—that I must have made some mistake, that brood-rearing could not continue in the cellar from December until late the following spring without bringing on dysentery and causing no end of trouble; but I think I know whereof I speak. Let me give you a case in point.

Here was a weak colony of Carniolans that had barely three frames of bees when warmed up. They were queenless. We introduced an Italian queen to them in December, which they accepted. She began laying under the stimulus of disturbance and feeding dry candy. By the following spring we had a full colony that was two-thirds Italians and one-third Carniolan; and, mind you, that Italian queen had not been put into that hive until December. What was true of this one colony was true of others, only in this case it was much more easy to note the actual increase by the change in the color of the bees.

Now, then, I hope you will not go home and pursue the policy of disturbing your bees in the cellar in a wholesale way because it is something of a dangerous experiment. We tried it out on some sixty-odd colonies, and the results were more than we expected. We also found that the constant going into the cellar and giving them candy from time to time had a tendency to start brood rearing.

I may say to you that we expect to give our bees hard candy this winter in the cellar. Should I come back next year I shall be glad to tell you the result of the second season's tinkering.

MR. HERSCHISER: What time do you put the bees in the cellar?

MR. ROOT: All kinds of dates; some in November, some in December, some in January and some on in February. The first of January is a pretty good time to put them in. Don't you know that there is no rule that will work every time with bees? I do not want the temperature to go below forty degrees in my cellars. But you must remember that I am in Ohio, considerably south of this.

A MEMBER: Would you recommend wintering in the cellar instead of outside? My experience is that I winter in the cellar and feed candy.

MR. ROOT: If you have a good plan of wintering in your cellar, stick to it.

A MEMBER: Do the bees use pollen that has been in the hives over winter?

MR. ROOT: They use some of it, but I do not know how much. Water is a very important matter in the cellar. Bees often suffer for the want of water. Some of your cellars are so cool that enough moisture condenses on the inside of the cover, so that the bees get all the water they require.

A MEMBER: How do you make the hard candy?

MR ROOT: Into a dish of hot water on the stove slowly pour an equal amount of sugar, stirring constantly. Make sure that the sugar is all dissolved before boiling commences. If this precaution is not observed, some of the undissolved sugar is likely to burn, injuring the flavor of the candy and almost surely causing trouble with the bees later. If you have a candy thermometer, watch the temperature, and do not let it go above 275 to 280 degrees. Test frequently by dropping a very little of the syrup into cold water (about fifty to 55 degrees F.). When the boiling has continued long enough the drop of candy, when cooled in the water, should be hard and brittle when taken out; but when placed in

the mouth it should soften slightly, so that it is tough. When this time has arrived, pour the syrup immediately on to paraffined or waxed paper on a table. Have the table perfectly level, and around the outside of the paper put wooden sticks one quarter of an inch high to confine the syrup and prevent it running off. When the candy is nearly hard, crease it or cut it with a heavy knife so that it may be broken up into right-sized squares when hard.

The color of the candy when cold should be about that of light basswood honey. If it is darkened very much it is scorched and unfit for the bees. To prevent the scorching, reduce the fire toward the last so that the syrup will boil, but slowly.

When the candy is first made, it is hard and glassy, and perfectly transparent; but after it stands for a little time it becomes somewhat watery and crystalline; but this is all the better so far as the bees are concerned, for they are enabled to take it more easily.

The thin cakes of candy being only a quarter of an inch thick may be placed over the frames and under the regular cover, and in this way a colony saved that would otherwise be lost. The feeding of syrup, especially in the spring, is apt to cause great excitement and possibly robbing, and for this reason the candy is safer as it takes it slowly.

Whoever makes the candy should clearly understand that if the mixture is scorched, even the slightest, it will make unfit food for spring or winter feeding. When the syrup is cooked nearly enough there is great danger of burning, and it is then that the greatest care should be exercised.

A MEMBER: I want to refer for a minute to this matter of feeding the candy over the frames. Why not use combs in place of that candy? We get precisely the same results, and I may say that on the first of May there are lots of my colonies that have five frames well filled with brood. I get the same results as Mr. Root does, only instead of the sugar I used solid honey.

MR ROOT: I use the candy because, after learning how to make it, it is cheaper than using any honey. You know that sugar melted up in that form does not cost very much more.

I want to remark one point very clearly about this thing: I am not advocating this scheme of raising bees in the cellar to stimulate brood rearing. It is only for experts who will not run any great risk. I am only mentioning it as a proposition for you to try. I think it is in the experimental stage and ought not to be endorsed.

A MEMBER: Do you recommend candy for spring stimulative feeding?

MR. ROOT: Yes. They cannot rob on candy. I think candy is a good thing to use in the spring of the year provided you can make it properly.

MR. MOORE: We had a question here this morning: Why are leather colored Italians better than golden?

MR. ROOT: The leather colored Italians are the true type of Italians. It is the type that has not been tampered with. When we interfere with the old type, we are liable to lose sight of some of the business qualities. There are good golden Italians, but in the apiaries that I have charge of I found the golden Italians were the first to go up in the spring and the first to go up in the winter. The leather colored will stand more hard wintering.

REPORT OF REPRESENTATIVE TO HORTICULTURAL SHOW.

WILLIAM COUSE, STREETSVILLE.

The honey for the exhibit was shipped to Toronto in August and put up the National Exhibition. That honey was supposed to be kept, stored and taken care of and put up again here as county exhibits. Unfortunately a great deal of that honey was not at all fit for exhibition purposes; it was not even No. 2 and some would call it No. 3. That honey was not put up at the Horticultural Exhibition. When Mr. Sibbald was appointed to look into this matter for this Horticultural Exhibition, it was found that so much of that honey was not good that the better way to do would be to pick out good honey. That was done; Mr. Sibbald was appointed to do that. He had some assistance from the rest of us in a certain way; however, he is the man who is responsible for that exhibit. I think as far as we are concerned that the Horticultural Exhibition Association are very friendly to us. The comments on that exhibit at the present time are very good indeed. Those who have had much to do with it felt that the Bee-keepers' Association are taking their place there. I have been asking the Manager and Directors if they were satisfied, and they say they are. We are helping them, and we know that there is a creditable exhibit there now. It is a very nice thing to put up an exhibit and say that. There was no doubt at all that an exhibition of honey such as we have always proves satisfactory to bee-keepers. It advertises as nothing else can do; it is going on and building up honey sales. I am sure that is what it means. We feel that we were well treated there; I know that we have got along very well. We are prize fighters in a sense, and get all we work for. It is very nice to be working along with other associations. Dr. Creelman suggested about ten years ago at Barrie that we do this, and we have done it. For ten years now there has been a real exhibition up there; every year it is getting better, and I see no reason why we should not go on exhibiting. Mr. Sibbald may have something to say, and I should like the President to say something too.

A MEMBER: What fault did you find with the honey?

MR. SIBBALD: In the Province of Ontario there are members every year that do not get a very big crop of honey and usually the quality is just as much out as the quantity. If you have a small quantity of honey it is generally darker. Taking it the way we did from the counties, we got the dark honey sent in from certain counties and that is not exhibition honey, as you will understand, and of course should never have been sent in at all. We have two lots of comb honey that is not fit to put up. It is nobody's fault; we did not think about the people sending in that kind of honey. It probably came from a county where they have not seen the exhibition honey here for a few years and sent it in good faith. If we had had a sample, it would not have been sent in. We would not think of putting it up and so we had to leave that out.

A MEMBER: In our County Association in Prince Edward we tried the whole county to get enough and all the comb honey we could find was sent up. We could not find the amount so we just sent what we could get fit for exhibition purposes. I heard it was all right.

MR. SIBBALD: Your honey is up all right.

REPORT OF HONEY EXHIBIT AT CANADIAN NATIONAL EXHIBITION.

The Secretary presented the following report:

On April 1st Mr. E. Grainger and the Secretary met President John G. Kent and some members of the Canadian National Exhibition to arrange for a honey exhibit. After some discussion the Ontario Bee-keepers' Association was offered a grant of four hundred dollars from the Canadian National Exhibition funds to be used in putting up an Association honey exhibit. This meeting was reported to a joint meeting of the Executive of the Ontario Bee-keepers' Association and the committee on the honey exhibit at the Horticultural Show. At that meeting Messrs. Evans, Hodgetts, Sibbald and Pettit were appointed as a special committee to collect the honey from different County Associations and put up the exhibit. As the Canadian National Exhibition comes at a time when all bee-keepers are busy the responsibility of putting up the exhibit was left entirely in the hands of the Secretary. A circular letter was sent to secretaries of the County Associations asking them to contribute 500 pounds of extracted honey or 300 pounds of comb honey, or both. Eighteen of the County Associations responded to this invitation and sent in their extracted honey, but only five managed to send in a show of comb honey.

The exhibit was set up with an eye to exhibiting commercial styles of packages, and the counties were each given representation by a row of pyramids extending from the top shelf to the bottom. The central feature of the display consisted of pure buckwheat honey and granulated white clover honey put up in one pound bottles so arranged that the white clover formed the letters O. B. A. with the buckwheat honey acting as background to the same.

The display attracted a great deal of attention and favorable comment. The Director of Colonization purchased a part of it to be sent to the Ontario Provincial Immigration Office in London, England. This was sent, and the secretary has since received a photograph of the very tasty window display which was set up in Old London advertising Ontario honey. As a result of this several enquiries have been received from English firms who are desirous of forming a business connection with Ontario honey producers.

THE PRESIDENT: When they asked us to put up an exhibit similar to the one placed last year at the Horticultural Exhibition your Executive Committee, in conjunction with the Committee of the Horticultural Show met, we arranged to have the honey come in as it is and to be used for both shows—to be used for the earlier exhibition and then to be held over. This is a question that was something new to us. I am not an exhibitor, and perhaps those on the Executive Committee are not. It would be better to leave it in the hands of a committee to deal with both shows in case they are asked to do so again.

The honey came, and the question was then to get some person to set it up, so Mr. Pettit undertook to have the honey set up and, with the assistance of Mr. Weir, it was set up at the Canadian National Exhibition. There was more came in than was required. In order to stimulate an interest in the exhibition and in the Association, we thought that it would be a good plan to ask the County Associations to send this honey in. This was an experiment. I do not know whether it would be satisfactory or not but we thought it would be a stimulus; instead of a few people sending, great numbers would say "There is some of my honey down at the show." Whether it has been a success or not I do not know, but, if not, we were trying to do the best we could. It was something that we had not dealt with before. If this Association, before they adjourn, would map out some different plan, I think it would be a good scheme.

On motion of Messrs. SIBBALD and BAINARD, Mr. Root and Mr. Herschiser were elected judges of the samples of honey from the different counties.

REPORT OF JUDGES OF HONEY.

MR. HERSCHISER: We had quite a difficult task before us in judging this honey, because there were so many meritorious exhibits that it was pretty hard to select those that were the best. We did the best we could, and perhaps some that did not get prizes were as good as some that did. It reminds me of an experience of a judge of fruits that I observed at the State Fair at Syracuse a few years ago. He was judging so many samples that were so nearly alike that he did not know which to select, so he got them before him and said he "would give it to that, but the rest were just as good."

There are one or two points in reference to the matter of judging. Perhaps some people might be interested in knowing just how we arrived at our decision in judging. There are three points that enter into the judging of honey: the body, the flavor, and the color. Of course the matter of color has reference only to the variety of honey that we are judging. In judging clover or buckwheat honey that is normally light colored, we expect the lighter color to be the better honey, but of course in buckwheat or any of the other dark varieties the color is not the greatest factor. Flavor is the greatest quality. It is flavor that people are after when they eat honey more than anything else. Perhaps the second in importance would be the body. Body and flavor must always go together, and we might say a real light-colored clover honey with a good body can always be expected to have a good flavor.

So we went over the samples of honey to find which had the heaviest body, and of course the first thing in judging the light honey would be to eliminate the dark-colored ones. The results of the judging of the extracted honey were as follows:—

1. Lambton County.
2. Halton and Peel.
3. Brant.
4. Lennox and Addington.
5. York.

I have been requested also to read the results of the judging of comb honey:—

1. Lincoln and Welland.
2. Kent.
3. Halton and Peel.
4. Middlesex.
5. Prince Edward County.

You see that the awards were pretty evenly distributed. Of course we did not know what counties were getting these awards, only the numbers. It is an interesting coincidence that no county exhibits except that of Halton and Peel got two prizes; they got second in extracted and third in comb honey. Without any effort on my part to do justice to Lincoln and Welland I notice that they got first in comb honey.

MR. SIBBALD: As you are aware the comb honey is up in a large pyramid at the exhibition and it would be impossible for anyone here at the convention to get the sections to judge them, so Saturday before we built the pyramid, I suggested to the President, Mr. Nolan, that he should judge that honey himself. Mr. Temple, from the Toronto Association, was there, and I think there was another party,

but I cannot remember who he was. They looked over the honey and placed it just as you have it there in the list. We had a good chance to spread the honey out on the table, and I think we all have confidence enough in Mr. Temple and Mr. Nolan to be satisfied with the judging that they did in that particular case.

MR. NOLAN: A word from me is not out of place in connection with the judging of comb honey. I had not thought of the fact that the comb honey would be set up down there, and it is more of a difficult matter to save a sample of it than it would be samples of extracted honey, which is easily done. The first thing almost that Mr. Sibbald pointed out to me on Saturday morning before we started to set up the exhibit of comb honey was "How are you going to have that judged?" and of course I was somewhat at a loss to know, and he said "You are not interested in comb honey," and Mr. Temple was with us, and another Toronto gentleman, whose name I cannot recall. He suggested to Mr. Temple and myself that we could judge the comb honey there, and perhaps our decision would be satisfactory. We knew nothing about whose it was. Mr. Temple and myself looked over the honey and we came to this decision which has been read. Mr. Temple was quite interested in that part of the exhibit; we had none there, and any way we would not be able to recognise any of it.

CROP COMMITTEE REPORT.

The Crop Report Committee of the Ontario Beekeepers' Association met on Tuesday, July 22nd, to consider the reports on honey crop conditions. Replies were received from 543 members.

The average crop is 63 pounds per colony, being located largely in the south-western counties. The eastern counties have practically no honey at all, and much the same may be said of the northern part of old Ontario, the greater part of Quebec Province. As there are usually great honey-producing sections their failure will greatly reduce the total crop. Where there is a crop, however, the quality is reported to be extra good.

In considering the price, the exceedingly high price of berries and the great shortage of the apple crop are taken into consideration. In fact some large sales of honey have already been made at the prices named as follows:—

No. 1. Light Extracted (wholesale), 11 cents to 12 cents per lb.

No. 1. Light Extracted (retail), 14 cents to 15 cents per lb.

No. 1. Comb (wholesale), $2.25 to $3.00 per dozen.

No. 2. Comb (wholesale), $1.50 to $2.00 per dozen.

It might be stated in explanation that these prices are f.o.b. in 60-lb. and 5-lb. tins, the former being net weight with the tin thrown in, the two latter being gross weight. The difference in time and trouble filling the small tins about equalizes the price.

In selling to the wholesale commission merchant the lowest wholesale price should be asked; while the retail grocer should pay the highest wholesale price. The retail price to the consumer might vary according to the quantity he takes at any one purchase, and whether he supplies his own package.

Yours very truly,

D. NOLAN, Newton Robinson.
WM. COUSE, Streetsville.
H. G. SIBBALD, Claude.
P. W. HODGETTS, Toronto.
MORLEY PETTIT, Sec., Guelph.

WHITE HONEY CROP REPORT.

County.	Number of Beekeepers Reporting.	Number of Colonies Reported—Spring Count.	Number of Pounds White Honey*	Average Number of Pounds per Colony—Spring Count.
Algoma	1	4	22	5
Brant	10	608	53000	87
Bruce	17	498	32800	66
Carleton	5	169	2500	15
Dufferin	5	204	11600	57
Dundas	3	118	.....	..
Durham	6	377	18200	48
Elgin	24	1055	90200	85
Essex	10	238	14800	62
Frontenac	9	352	11200	32
Glengarry	8	921	50	..
Grenville	5	228	1110	5
Grey	24	774	45800	59
Haldimand	7	285	23600	83
Haliburton	No report.			
Halton	15	1469	137200	93
Hastings	13	390	20800	53
Huron	19	1158	45800	39
Kent	7	661	68900	105
Lambton	22	901	52500	58
Lanark	6	308	1200	4
Leeds	6	209	8100	39
Lennox	9	590	25700	44
Lincoln	13	553	47200	85
Manitoulin	1	58	1000	17
Middlesex	42	2947	266500	90
Muskoka	3	92	2900	31
Nipissing	No report.			
Norfolk	14	442	26700	60
Northumberland	12	464	39000	84
Ontario	14	509	33500	65
Oxford	14	404	33300	82
Parry Sound	1	214	3000	14
Peel	14	762	57800	76
Perth	22	771	63000	82
Peterborough	9	166	5600	34
Prescott	3	285	1200	4
Prince Edward	6	239	8400	35
Rainy River	No report.			
Renfrew	4	416	507	1
Russell	3	42	1400	33
Simcoe	29	1148	66600	58
Stormont	7	634	3600	5
Thunder Bay	No report.			
Victoria	14	622	22500	36
Waterloo	6	54	4200	77
Welland	15	567	56000	98
Wellington	20	784	45700	58
Wentworth	7	301	32600	108
York	39	1427	131200	92
Totals	543	25418	1618489	63

* A small percentage of the honey reported is sold in comb honey sections. As a colony managed for comb honey will produce about half as much as one managed for extracted honey, the Committee has multiplied the number of pounds of comb by two before adding in with the extracted.

MR. SIBBALD: The Report of the Crop Committee need not take many minutes. We met this year as usual about the 22nd of July. We had such a good flow of honey; it might have been better if our meeting had been held a little later; we would have had a better idea then of the amount of honey produced in the Province. I know that after our meeting my bees gathered a super of honey that I did not expect and of course you know that, coming after a large crop, makes quite a large difference on the average crop. It may be that we set the price a little high this year, but I do not think it did any harm. If we had set it lower it would have gone just that much lower and I think it stiffened prices and maintained them, and I think we are in a fair way to have a good demand all winter for our honey. When it is plentiful dealers say, "We can get honey just as soon as we want it, and when we want it, and there is no use of our putting our money into it." You understand the situation that makes. They are not ready to buy one hundred or two hundred thousand pounds, and so honey does not go quite as fast as it does a year when it is scarce. When it is scarce the wholesaler says: "I must have a couple of hundred thousand pounds of honey," and so he goes right after it, and piles it up in storage and has it ready to sell at any time. As far as I can learn there is no great quantity of honey stored up in the wholesale houses just at present. I believe that there will be a good steady demand for honey all winter; better than last. Our honey is of the very best quality this year, and it will keep. The prospects throughout the country are that there will not be such a good crop next year and it will not hurt us to keep some over. I think there is no need of getting in a hurry about selling your honey. The market has improved in demand very much this last two or three weeks. There was a very large crop of peaches and other fall fruit, and until that got off the market the demand for honey was not so good. The quality of honey is sure to bring repeated orders.

Out West money was tight. The people had not the money this year, but they have had a good harvest and they are getting it marketed nicely from all reports, and I believe we will get repeated orders from the West this year that we did not get last year. I was disappointed in the West last year; many people who ordered in the autumn and usually repeated the order after Christmas, did not send one at all. This year I think you will find the demand in the West after January just as good as it has been any other year.

We meet again in the fall. Buckwheat honey is going up in price, and we will soon all be looking for buckwheat fields instead of clover. The demand is so good that nearly all the buckwheat honey has been sold, and if there is any more in the hands of bee-keepers I think they could easily sell it. That part of it is very satisfactory.

MR. COUSE: In the first place we actually met too early; I said so at the time, from the fact that I saw clover was going to continue to bloom and also red clover for a second crop, more than we have had in years. Most of the bee-keepers got quite a super or more of clover honey from red clover. That made the crop a good deal more than was expected. However, I am still more convinced than I ever was that you cannot make a mistake in getting these reports. The whole committee marked down on a paper what they thought would be right; there was not half a cent of a difference in the opinion of the whole committee. We took into consideration the short crop of apples, but we did not expect such a glut of peaches as actually happened, which had a good deal to do with honey being held back until so long. Now we know from good authority that the West is taking the honey. I sent out my original order which was supposed to be enough for the season. However, I

have that repeated already, and I think we will find that people in the West are getting their money now and the orders will be repeated. I am not afraid at all on taking chances on holding it. I don't think we should attempt to sell it all at once. At your own door you sell more than you ever did. The quality is really superior and you should try to sell all you can locally. Everybody thinks they should sell all their honey in Toronto. That is not so. Sell all you can at home first and then get away somewhere else. You can do a good deal in keeping the market from being glutted in that way.

We were perhaps half a cent or so high and that is all, but it was an error in the right way. The honey is worth it. That is the greatest thing. Honey is good value all the way from 12 to 15 cents retail.

Moved by Mr. NEWTON and seconded by Mr. CHRYSLER, that these reports be accepted. Carried.

REPORT OF THE EXECUTIVE COMMITTEE OF THE ONTARIO BEE-KEEPERS' ASSOCIATION FOR 1913.

The membership of the Ontario Bee-keepers' Association paid up to November 1st, 1913, is 1,404, compared with 529 last year. Five hundred and two of these members came in from affiliated societies, and the balance of 902 by single subscriptions. This great increase in the membership is due partly to an organized advertising campaign by the Secretary during the year, partly to the increased benefits given to members by the Association and partly to the aroused interest in bee-keeping throughout the Province.

The following new County Associations have affiliated with the Ontario Bee-keepers' Association during the year: Elgin, Frontenac, Grey, Kent, Lambton, Lennox and Addington, Peterborough, Prince Edward and Stormont.

The Affiliated Associations with their members are as follows:—

Brant	12	Norfolk	42
Elgin	19	Northumberland	14
Frontenac	14	Oxford	8
Glengarry	11	Peterborough	10
Grey	10	Prince Edward	9
Haldimand	10	Russell	11
Halton and Peel	18	Simcoe	21
Hastings	14	Stormont	23
Huron	17	Victoria	31
Kent	17	Wellington	15
Lambton	17	Toronto	24
Leeds	25	York	19
Lennox and Addington	29		
Lincoln and Welland	27	Total	502
Middlesex	35		

The Foul Brood Inspection was again carried on during the year through the Department of Agriculture, the grant for this purpose being $4,000. The Bee Disease Bulletin was again revised by Mr. Morley Pettit, Provincial Apiarist, and sent to about 8,000 Ontario bee-keepers. The Crop Report Committee sent out report forms to members in July and received reports from 543 members, having 25,418 colonies spring count, and reporting 1,618,489 pounds of honey, being an average of 63 pounds per colony.

During the winter the Secretary sent to members a list of Queen Breeders and Association prices, 320 members taking advantage of this by ordering from the Secretary 2,578 queens. The work will be continued next year.

Owing to the discontinuance of the publication of the *Canadian Bee Journal*, the Executive Committee made arrangements with the Horticultural Publishing Co., of Peterborough, to publish a special edition of *The Canadian Horticulturist* to be known as *The Canadian Horticulturist and Bee-keeper*. Members have been receiving this since the 1st of May, 1913.

THE INSPECTION OF APIARIES OF ONTARIO, 1913.

Morley Pettit, Provincial Apiarist, Guelph.

The apiary inspection work may be divided under three headings. First, the work of the office which includes the clerical work on the card record system, keeping the mailing list revised, sending out circular letters and arranging or supervising the field work of the inspector and the education campaign. Second, the education campaign under which heading come the Apiculture Short Course, circular letters and the apiary demonstrations. Third, the actual inspection work, inspector's trips, etc.

By the addition of an addressing machine and other labor-saving appliances to our office equipment, the difficulty of handling our large mailing list has been greatly reduced. Our mailing list included over eight thousand addresses. From many of these we have no definite information. We had heard that they kept bees and have placed their names on our list, but they never sent us reports or communicated with us in any way. In order to get rid of the names of non-bee-keepers and to secure others that we had not yet received, we sent out the township lists to the clerks of townships, asking them if they would kindly let us know of the death or removal of any on the list, also those that were not bee-keepers and to add the names of those who are bee-keepers whose names were not down. A similar request was sent to leading bee-keepers all over Ontario, and a lot of valuable information was secured in this way. We next sent to the names of which we still had no report a return post card, asking them to state whether they were bee-keepers or not. In many cases those who had previously showed no signs of life sent in their number of colonies and frequently sent in a membership fee for the Bee-keepers' Association as well. Our list now has about six thousand five hundred active names.

Believing that diseases of bees are spread very rapidly by robbing out the winter-killed diseased colonies, the following warning letter was sent to bee-keepers whose apiaries had previously been reported diseased:

Guelph, Ontario, March 15th, 1913.

Dear Fellow Beekeeper:

Have you looked at the bees yet this spring? I am writing early so you will look out for robbing the first time it is warm enough for them to fly. Be sure to hunt out the dead ones and carry the hives inside where bees cannot possibly find them. You know the robbers are sure to find a way in if you only close the hives and leave them sitting out. You will need to double up queenless colonies and contract entrances of weak ones as well.

Do not, under any circumstances, leave combs of honey out for the bees to clean up. Any honey you have is likely to contain germs which will scatter disease in your healthy colonies. On account of the prevalence of disease in unexpected places throughout the Province, it is never wise to feed honey to bees, and where disease is known to exist it is the worst of folly.

You will hear from me later about foul brood. In the meantime, I trust that for your own sake you will be careful about this matter of allowing them to rob. If you have any neighbors who are careless in this respect, a letter from you will be treated as confidential.

Yours very truly,

MORLEY PETTIT.

This letter undoubtedly reminded a great many bee-keepers to guard against robbing. Many thought of the small surplus taken off last year and resolved to have better returns and to start the season properly by having a look at the bees. Bulletin 213, Bee Diseases in Ontario, a revision of Bulletin 197 was now sent out. This replaced the old lost one and again brought to the bee-keepers' attention the seriousness of foul brood. Later correspondence sent out from the office dwelt on other lines so no mention of it is needed here.

THE EDUCATION CAMPAIGN AGAINST FOUL BROOD.

The circular letters just mentioned of course form a part of the educational campaign, but we may refer here especially to the short course at the Ontario Agricultural College in January, 1913, and the many apiary demonstrations held in all parts of the Province from May until the middle of July.

About seventy students registered for the short course, and in addition to much valuable information on practical management of bees, they received a very thorough grounding on foul brood. Many of the apiary inspectors took part in the discussions. The inspectors report that they noticed a very marked influence of instructions received at this course wherever they find our students engaged in bee-keeping throughout the Province. These students are often referred to by their neighbors as the authorities on bees, and the inspectors find them very helpful on their trips.

The apiary demonstrations were as far as possible evenly distributed over the diseased sections of the Province. The sum of five hundred dollars from the Federal grant to Agriculture aided very materially in carrying them on. The arrangements and all advertising were done from the apiculture office at Guelph. Special letters were sent to the secretary of the County Association, to the District Director of the Ontario Bee-keepers' Association, and to the representative of the Department of Agriculture, notifying them of the meeting and inviting them to be present and take part in the programme. Cards were sent to all bee-keepers in the neighborhood of the meeting, stating the nature and object of the gathering, and the time and place of holding the same. The local papers were also notified about the meeting. The demonstrations were in charge of qualified inspectors, assisted by the best bee-keepers of the district. The following table gives the county, place and number present at each meeting.

There were 59 demonstrations in all, and the total attendance at 57 of these was 1839, averaging 32 in attendance at each demonstration.

The detection of foul brood and its treatment were fully discussed at these demonstrations. Generally a colony, whether diseased or not, was put through the

treatment showing exactly what is to be done and how. In districts where foul brood is later found by the inspector, this practical lesson is of great value. Upon finding the disease the inspector has only to show it to the bee-keeper and tell him to do as was done at the demonstration. The proper treatment will save much time and trouble and will prevent many hard feelings between the bee-keepers and the inspector, which generally arise from failure to cure by overlooking some detail of the treatment.

Apiary Demonstrations in Ontario, 1913.

County.	Place.	Attend-ance.	County.	Place.	Attend-ance.
Brant	Brantford	24	Norfolk	Courtland	25
Carleton	Marathon	30	"	Waterford	25
"	North Gower	25	"	Carholme	No report.
Dufferin	Orangeville	20	"	Lynn Valley	25
Dundas	Winchester	69	Northumberland	Campbellford	25
Elgin	Fingal	25	"	Roseneath	25
"	Aylmer	50	"	Norham	25
Essex	Harrow	15	"	Hilton	5
"	Essex	21	Ontario	Cannington	29
Frontenac	Kingston	18	Oxford	Dereham Centre	30
"	Sydenham	20	Parry Sound	Powassan	18
"	Sharbot Lake	25	Perth	Mitchell	36
Glengarry	Williamstown	34	"	St. Mary's	40
"	Maxville	42	Peterboro	Peterboro	28
Grey	Clarksburg	42	"	Norwood	64
"	Owen Sound	32	Prescott	Fournier	36
"	Markdale	18	Prince Edward	Woodrows	30
Hastings	Tuftsville	55	" "	Consecon	30
Kent	Chatham	15	Renfrew	Renfrew	25
Lambton	Thedford	40	Russell	Bear Brook	30
Lanark	Rideau Ferry	40	Stormont	Avonmore	19
"	Carleton Place	40	Temiskaming	Monteith	Farmers' Excursion.
"	Lanark	18			
Leeds	Athens	40	Victoria	Lindsay	41
Lennox	Napanee	50	Waterloo	Galt	30
"	Newburgh	35	Welland	Snyder	60
"	Bath	35	"	Winger	70
"	Croydon	25	Wellington	Belwood	30
Lincoln	Smithville	50	York	Elgin Mills	50
Middlesex	Delaware	15			
Nipissing	New Liskeard	18		Total	1,837

The Actual Inspection Work. The plan of inspection differed with the two kinds of foul brood. In the European foul brood district, little or no good is done by covering the same ground the following season. If disease was found last year and no action taken to clean things up, very few bees will be found the following season. For this reason we covered the outskirts of the district, advising treatment or destroying where disease was found, and warning and advocating Italianizing the apiaries not yet attacked. Our mission has been more one of warning than of finding disease and treating, and it will be seen that it was practically an educational campaign conducted by the inspector to the individual bee-keeper.

With American foul brood the same territory has been, as far as possible, covered each year until the neighborhood has been found to be cured. The inspector is provided with a blue print map of the counties showing cross roads and concessions and in many cases the lots. The bee-keepers are located as exactly as possible on the blue print. By referring to these maps and to the lists which are

provided them, the inspectors can easily find the apiaries diseased, and can get an exact idea of the neighboring apiaries. When an apiary is found diseased, the inspector has the bee-keeper sign an agreement to treat the diseased colonies by a certain date. These signed contracts are sent to the apiculture office and filed by dates. If the report of treating from the bee-keepers is not received by the agreed time, a letter is sent to him, asking for an explanation. If this fails to bring the report or an explanation, it is sometimes necessary for the inspector to make a second visit and destroy diseased material by burning.

About one thousand visits were made to apiaries and of these only 352 were found diseased. Considering that inspection was only carried on in diseased or suspected apiaries, the percentage is not high. Of 6,786 colonies inspected only 171 were destroyed by fire.

In connection with European foul brood our inspectors advocated the use of Italian queens and also urged the necessity of practising stimulative feeding between apple bloom and clover flow to assist the bees in cleaning up diseased material. In many cases this has proven very beneficial. In the apiary of Mr. U. H. Bowen, Niagara Falls, this experiment was given a very thorough test, and proved very satisfactory. In fact our bee-keepers find in some cases that it is not necessary to destroy the combs in the milder types of European foul brood.

FRIDAY MORNING.

The session opened with the new President, Mr. J. L. Byer, in the chair.

MR. BYER: I assure you that I am in somewhat of a difficult position; I think I am perfectly candid when I say I am here against my will. I have no desire for the office whatever, but at the same time I would hardly be human if I did not appreciate the honor that you have conferred upon me. It is always very difficult to follow a good man, and that was one reason why I hesitated in accepting the chair at this time. In trying to fill the position that Mr. Nolan has filled so well in the past two years, I feel the responsibility very much. Mr. Nolan is one of those men who does more than they say. I am afraid you will not be able to say that of his successor, because sometimes I have a feeling that I talk too much. I have been with Mr. Nolan for the last two years, and have found him long-suffering and self-sacrificing, and much of the success that we have had has been due to his able executive work. Mr. Nolan has business capabilities that I feel I have not.

MR. SIBBALD: All you have said was right. Mr. Nolan has been very helpful, and has been very quiet about all the help he has given, and I feel on that account that somebody ought to say something about it. He is very modest, and you would hardly think he was doing anything at all, but he attended all the meetings and wrote letters about the business. I move that a vote of thanks be tendered Mr. Nolan to show the appreciation of the convention for his faithful work as President during the last two years.

MR. COUSE: Mr. Sibbald and I and the rest of you have been working with Mr. Nolan, and we could not help getting up to say something. It was a case of actual necessity. He is a man who gives his time and ability, and does not say anything. This is one of the best features of the man; he can do a whole lot and say nothing. It is a pleasure to second this motion. It is due him, and I am sure personally that I know a good deal of what he has done. A good many of you

do not know that he has been working for about a week at the honey exhibit. These are the things that he has done, and we all appreciate it very much.

MR. PETTIT: As you know, I have been associated with Mr. Nolan during the past year on the Executive, and I can truly endorse all that has been said.

The motion was carried unanimously.

MR. NOLAN: I thank you heartily.

THE QUESTION OF TRANSPORTATION.

GEO. F. KINGSMILL, O.A.C., GUELPH.

The subject of transportation is one of vital importance to all of us and worthy of our deepest consideration Without transportation facilities, the bee-keeper is seriously handicapped. Imagine a manufacturer without ready access to a railroad with its freight and express service at his disposal. How often would he be unable to fill orders simply because he could not get his product to the market. Now imagine a bee-keeper in similar straits. The bee-keeper though not a manufacturer, has a product to place on the market, and has to depend on the market for his supplies. Without transportation facilities our markets, both for purchasing and selling are extremely limited. We are totally dependent upon local conditions; upon the local grocer for our sales and possibly upon the neighboring saw mill for part of our supplies.

Being satisfied, then, that outside markets are to be sought the question is "How to reach that market?" In solving this question we have several factors to consider: Whether it is to our advantage to use express or freight rates, the style of container, and under the head of transportation I am dealing with honey alone and not referring to beeswax, supplies, etc.), the distance, destination, size of shipment, time of year, rapidity of delivery, convenience, etc. Thus it appears at once that the solution of this problem of transportation, of "How to get there?" is by no means a simple one.

For the sake of convenience I have divided the subject into various headings and will discuss it, first separately from these various standpoints, then compare the one with the other and finally draw our conclusions from the comparison.

At the outset, let me state that there are many means of transportation, that no matter how isolated we may seem to be there is always a slight choice in the facilities offered. Vehicles, drawn by horses, motor trucks, steamships, express companies and freight agents may all be considered means of transportation, but since some of these are of local use only we will consider only those that are of more general use, namely express and freight. Express would be consignments handled by an express company and freight would be shipments consigned to a railroad, whether sent by rail, rail and boat, or by boat only, depending upon the time of year, weather, shipping point, and destination and upon the route to be taken.

Wherever possible the consignment should be sent in car lots to have these advantages:

1. Cheapest rate.
2. Securest transit.
3. Safest packing.

The fact that the shipper packed the car and the receiver unpacks it at its

destination, and during transit it is sealed, accounts for its security, and safety. But generally our quantities do not reach car load minimums—24,000 pounds—so we resort to either express or freight in less than car loads.

The classification of honey of the express company is as follows:

In comb, not boxed.....Double mdse.	In tins.....Scale N.
In comb, boxed.....Mdse.	N. O. S.....Mdse.

This is a very fair and just classification. The handling of comb honey not boxed requires special care, and risk of breakage is abnormally high, yet the express company charges only double merchandise. When honey is shipped in tins, either jacketed or open, it is classed at the same rating as poultry, fruit, vegetables, meats, produce, and slightly better than merchandise. Under this classification it will cost to send honey from Toronto to Montreal—335 miles—in tin pails:

10 lbs.	$0 45	100 lbs.	$0 80
30 lbs.	0 60	500 lbs.	3 75
60 lbs.	0 80		

The rates to Chicago from Toronto, another long haul of slightly over 500 miles:

10 lbs.	$0 65	100 lbs.	1 60
30 lbs.	1 00	500 lbs.	7 50
60 lbs.	1 20		

On the one hundred pound basis this rate, for a long haul, is about 3c. per hundred pounds per mile. On a short haul, say from Toronto to Hamilton, a distance of 39 miles the rate is 35c. per hundred pounds or just under one cent per hundred pounds per mile.

This rate appears rather high, yet when the many advantages of an express service are considered it is not at all prohibitive. The advantages of express service are:

1. Express matter is carried on fastest express passenger trains, which are seldom delayed.

2. Many special messengers on trains covering the principal portions of the lines several times, each way, daily.

While this matter of speed or rapidity of transit may not be of great importance, the delays when consigned to freight often cause untold trouble and inconvenience.

So much then for the express tariffs; let us now turn our attention to freight. Here also we have to deal with a classification:

Honey—

	L.C.L.	C.L.
In comb, boxed, O. R. Lkg. or D.	1	4
In glass, packed in cases	1	4
In cans, not crated or boxed	1	4
In cans, crated or boxed	2	4
In pails (subject to rule 20)	2	4

This classification for the Canadian roads compares very favorably with that of the United States. Our railroads accept cans, not crated, while theirs refuse to handle the cans unless packed or crated. Their classification is in no case more favorable than ours and in some few instances, slightly higher in class in car lots.

You will see that the classification is based upon the containers. A comparison of the rates of the classes is as follows: (The distance is from Toronto to Montreal.)

1st.....44	or 500 lbs. in comb, boxed	$2 20
2nd.....39	or 500 lbs. in glass, boxed	2 20
3rd.....33	or 500 lbs. in tins, net	2 40
	or 500 lbs. in tins, boxed	1 95
4th.....28	or 500 lbs. in kegs, bbl.	1 95

Honey in any containers in car lots is classed as fourth class. Thus comb honey in car lots travels much cheaper per hundred pounds than honey in 60 pound pails in smaller quantities. Now while the market generally dictates the style of the container, or the honey is packed in the vessel most easily obtained, we should consider the style of container that is the cheapest to buy, safest to ship, and lowest classed in shipment. Thus considering the latter we have cans, barrels, or kegs, all travelling as second class matter.

In selecting shipping points it will be found that places having competitive companies have better rates. I believe that Reaboro and Lindsay and Hamilton are a good example of this. The rate to Reaboro from Hamilton is 8c. per hundred pounds more than from Hamilton to Lindsay. Considering Reaboro is only eight miles from Lindsay, this cent a mile seems extraordinarily high. During the summer months the railways offer special rates to compete with the lake carriers. These special rates include both an all rail route, that is over the same route as in winter, and a lake and rail route going part of distance by boat and part by rail. This latter, while generally cheaper, requires the handling of the freight at least four times:

1. At loading point.
2. Loading to ship.
3. Unloading at ship terminal.
4. Unloading at destination of trip.

This handling does not improve the packages, but increases the risk of theft and breakages.

The rate of an all rail route from Montreal to Winnipeg:

1st	$1 61	3rd	$1 09
2nd	1 36	4th	0 83

The rate of a lake and rail route from Montreal to Winnipeg:

Via Duluth, September 15th. Via Fort William, etc., November 15th.

1st	$1 36	3rd	$0 95
2nd	1 16	4th	0 73

Straight rate (all rail) between Toronto and Montreal:

1st	$0 44	3rd	$0 33
2nd	0 39	4th	0 28

Competitive (all rail) Toronto to Montreal, April 1st November 14th:

1st	$0 40	3rd	$0 30
2nd	0 35	4th	0 25

The following is a comparison of the freight rates charged by a steam road and an electric road between some points:

	Steam Road.	Radial.
1st	18	16
2nd	16	14
3rd	14	12
4th	11	10

The instance given is between Toronto and Newmarket, a distance of 34 miles. Here you notice that the radial line offers cheaper transportation than the steam road. It is to be hoped that these radials increase in number, in mileage and continue to be a competitive force over a wide area with the steam roads.

From the foregoing tables we come to the following conclusions:

1. The car load shipments are cheapest, safest and most satisfactory means of transporting large quantities.

2. That freight rates are better when between competitive points.

3. That honey shipped in crated cans, kegs, or barrels receive best rating.

4. That a lake and rail route is cheaper than a straight rail route but is subject to much additional handling, increasing the risk of breakage and possible damage to package.

5. That express companies offer a very rapid means of transportation but expensive for large consignments.

6. That for very small packages the express rates are cheaper than freight.

7. That the question of transportation is by no means an easy problem to solve.

My thanks and appreciation for their kindness is due to the express officials and freight agents, especially those at Guelph, who on every occasion gave me an extreme courteous attention and were very generous with the distribution of their pamphlets and circulars dealing with their rates, tariffs, etc.

MR. BLAKE: Might I ask if there is not a difference in the rating in shipping 1 cwt. or less than 100 lbs. on railroads? Does not a box that weighs barely 1 cwt. cost more than a box weighing 125 lbs? If you send anything less than 100 lbs. a far higher rate is charged.

MR. NOLAN: The minimum charge is on 100 lbs.

MR. BLAKE: A box being barely 1 cwt. is charged more for than 125 lbs.

MR. PETTIT: I have done quite a little bit of shipping and never noticed that point. I think you will find that the only difference is that there is a minimum charge of 35 or 40 cents on anything being sent by freight.

MR. MCEVOY: I would like to know if the transportation companies have any legal right when they receive honey in good condition to mark it "Shipped at owner's risk." They have done quite a little this summer; where honey was shipped by us, it was so marked.

THE PRESIDENT: I think it is customary to put this on but I do not think that the court would consider this as binding. They have instructions to do so, but I have received damages even when the shipping bills were marked "Owner's risk."

MR. COUSE: They all put that on, that is all..

MR. MCEVOY: If you put up a leaky can they have no right to accept it.

MR. KROUSE: If they do accept it in bad order you could get paid for it any way if they once accept it.

MR. BLAKE: If you read over the rules and regulations on the back of the bill of lading you will find that there is very little shipped at owner's risk. An agent in a small place looks after the interests of the railway company, but I can say

that he is perfectly upright, and he never now, unless it is comb honey, puts "Owner's risk" on the bill. If you read the rules on the bills you will find that has been left out.

MR. EVANS: The conditions of shipping are under the control of the Railway Commission of the Dominion of Canada and they make these conditions and the railways cannot get out of them. They have a releasing clause for the shipper to sign but at the same time they put a clause in that "This is at the owner's risk." Although they have a clause releasing themselves from all liability that does not make the slightest difference. They have to come down to the condition of the Railway Commission of the Dominion of Canada. I had some sixty cans of honey shipped under ordinary conditions which were smashed, and they paid all the damages.

MR. MCEVOY: Is it illegal?

MR. EVANS: They must comply with the rules of the Commission; they cannot get out of liability.

MR. HERSCHISER: I believe that these conditions are put on to try to impress on shippers to ship in good condition. They are usually liberal in settling for damages. They seem to be willing to pay if they are to blame, and that is all that can be expected.

NOTES FROM THE YEAR'S WORK.

MORLEY PETTIT, PROVINCIAL APIARIST, GUELPH.

The past year has been a busy one, and one with gratifying results. The bee-keepers of the Province have shown an increased interest in all the activities of the department and of the Association, and particularly in their own business, with the result that many of them have reaped a bounteous harvest. The increased interest in bee-keeping all along the line has been marked by the goodly attendance at the Ontario Agricultural College Short Course in January; at the Summer Demonstrations and County Conventions. The fact that nine new County Organizations have been formed is also very significant. The more tangible evidence of aroused interest is the membership of our Association, which is nearly 1,000 greater than it was a year ago; the volume of the queen business, 2,500 queens bought by the Secretary for members, and the fact that the first slight effort to assist members to sell honey co-operatively has resulted in the sale of 75,000 lbs. of honey valued at over $8,000.

The Bee-keepers Short Course held for two weeks in January at the Ontario Agricultural College was attended by 70 bee-keepers from all parts of Ontario and other provinces.

The number of co-operative experiments sent out by the Bee-keeping Branch of the Experimental Union was increased by the addition of an experiment on "Spring Management of Bees." This experiment was undertaken by about 350 bee-keepers, and very good results secured.

The apiary demonstrations, 59 in all, were attended by an average of 32, which is a larger average than last year, showing that the interest in these meetings is increasing rather than otherwise.

Fall fair demonstrations were also more largely conducted than previously and along different lines, the demonstrator being given an inside stand where he

could come more closely in contact with interested persons than in the demonstration cage formerly used. For the two classes of demonstration work we used a special vote of $1000 from the Federal Grant to Agriculture in Ontario.

One of the most interesting features of the year's work has been the campaign for members of the Association. We first got the matter of the Association organ settled, then made definite arrangements for purchasing queens for members, and prepared a little slip of paper on one side of which was listed statement of benefits derived from membership, and on the other side an application form ready to be filled out. These leaflets were sent out by thousands in all of the mailing matter which left my office, and gave the bee-keepers an opportunity of knowing what the Association had to offer and an easy way of becoming members. I may say in reply to some criticism which has appeared in the bee-keeping press, that in all this work we have endeavored to present the cause for bee-keeping fairly and have made no canvass outside of those who are already bee-keepers, so the growth of the Association has been a healthy one, gaining its strength as it has from those already engaged in the business.

The apiary inspectors performed their duties as usual, and made about 1,000 visits to apiaries, finding 35 per cent. of the apiaries visited diseased. This is the same percentage as last year and is really no index of the progress being made because once apiaries are known to be free from disease these are no longer visited, as our men have their instructions to visit only diseased districts. I am satisfied that good progress is being made in the education of bee-keeping for the control of American Foul Brood and the European variety as well. The latter, however, from the very nature of the cause is spreading over an increased territory, removing from the ranks of bee-keepers those who have been slow to adopt the advanced methods which have been so thoroughly advocated by bulletins, demonstrations and the press. Some cases have come under our notice where the use of Italian queens and the practice of stimulative feeding has cured this trouble without the destruction of any combs.

ITALIANS AND EUROPEAN FOUL BROOD.

F. W. L. Sladen, Ottawa.

Italians are in a measure resistant to European Foul Brood. Probably no other fact is so assuring to the bee-keeper who thinks of the future. Few details beyond the bare fact are yet known. I had some experience at Dover in England with European Foul Brood and found it again on my arrival at Ottawa. In both places Italians proved to be more or less resistant to the disease. How far are they resistant? Can they be made more so by breeding? These questions will take long to fully answer, but bearing on the subject are two conclusions that in my experience have been supported by so much evidence that it seems safe to state them as facts.

1. Some strains of pure Goldens are as susceptible to the disease as Blacks.

2. In England, crossing Goldens with Blacks, though it produced a hardier and more energetic bee than either race, did not increase resistance to European Foul Brood. Therefore, it appears that crossing or hybridising does not in itself increase the power to resist the disease.

A Golden bee is one that has the three basal segments entirely yellow and the fourth segment and sometimes also the fifth more or less so.

The strains of Goldens that I bred in England was found to be about as susceptible to European Foul Brood as British Blacks. Goldens from a pure golden queen obtained from Texas and introduced into the apiary at the Central Experimental Farm, Ottawa, were also highly susceptible. Most of her daughters mated by drones of various kinds produced bees that quickly showed disease, while the other bees in the apiary remained almost unaffected.

In England pure Italians from Italy and 3-banded Italians from the United States proved more resistant than Blacks, Goldens, or Golden-by-Black hybrids. The pure Italians from Italy and the 3-banded Italians from the United States have the basal portion of each of the first three segments of the abdomen yellow. This distribution of color is also found in many of the Golden-by-Black hybrids but the Italians can be distinguished from hybrids by their greater tenacity and quietness on the comb and by the fact that the queens bred from them produce bees that vary very little in color, and not, as in the case of hybrids, all the way from black to golden.

There is much evidence to indicate that certain industrious and vigorous strains of Goldens resist European Foul Brood rather well. Possibly these are not pure Goldens, but Goldens crossed with 3-banded Italians, and they may owe their resisting power to their Italian blood.

Pure Golden queens have the abdomen entirely yellow. Queens of the pure Italian race from Italy and of the American 3-banded variety of Italians have more or less black on the tail and may sometimes have black bands, but they will produce 3-banded workers from one generation to another if mated by drones of their own kind. Such queens are entirely different in nature to, though sometimes indistinguishable in appearance from, the black-marked queens reared adventitiously in an apiary that was once Italianized or Goldenized, and is going back to black. The former produce bees that usually resist European Foul Brood; the latter produce bees that are more or less susceptible.

REPORT OF COMMITTEE ON RESOLUTIONS.

We, your Committee on Resolutions, beg leave to make the following report:

The Late Wm. McEvoy.

First, "Whereas the Ontario Bee-keepers' Association has learned of the death of Wm. McEvoy, of Woodburn, a member of this Association since its organization, and for many long years the faithful servant of the Association in the office and capacity of Inspector of Apiaries of the entire Province of Ontario, and, whereas by the publication of the method of treatment for the cure of brood disease among bees (which method is known and quoted in this and other lands as "The McEvoy Cure"), he has conferred a benefit on the community at large, which will last as long as time and circumstance endure, and whereas, we shall meet Wm. McEvoy no more in our assemblies, nor feel the warm grasp of his hand, nor hear his voice in friendly greeting again on the shores of time;

"Therefore, be it resolved, and it is hereby resolved, that the Ontario Bee-keepers' Association takes this, the first opportunity of giving a united expression

of regret over the loss sustained in this event, and that our heartfelt sympathy and condolence be tendered the widow of our late friend and co-worker as she sits in the gloom pervading the home in consequence, of this sad visitation of death, and we hope that the consolations of His grace, who has promised to be a Husband to the widow and a Father to the fatherless, may be had in comforting experience as she longs for "the touch of the vanished hand and the sound of a voice that is still;"

"And be it further resolved that this resolution be recorded in the minutes and published in the Annual Report of this Association, and an engrossed copy, signed by the President and Secretary, be sent to the widow of the late Wm. McEvoy at Woodburn."

Spraying Fruit Trees.

Second, "We have had before us a communication from the Northumberland Bee-keepers' Association *re* spraying fruit trees, and asking that steps be taken to have the Act changed by striking out the word "full" where it reads *full bloom*.

"We recommend this to be done, and that the Executive be authorized to take immediate action in this matter.

"The Northumberland Bee-keepers' Association also ask that the minimum penalty for contravention of the Spraying Act be $25.00, and the maximum penalty be $50.00.

"We refer this last matter to the Executive."

Purchasing of Tin Containers.

Third, "We have had communications and resolutions from the Middlesex Bee-keepers' Association, re co-operation in the matter of buying tin containers for the use of members of the Ontario Bee-keepers' Association.

"We recommend that this matter be referred to the Executive Committee."

Honey Pail.

Fourth, "We have had a letter and resolution from the Elgin Bee-keepers' Association, asking for a *perfect* honey pail.

"We would recommend that this also be referred to the Executive Committee."

All of which is respectfully submitted.

M. B. Holmes.
J. D. Evans.

Mr. Holmes moved the adoption of the report, seconded by Mr. Evans. Carried.

The President: There is a motion relative to the Foul Brood Inspection. There was a committee appointed to consider that, and a resolution was brought in which will be read now.

Bee Inspection.

Mr. Hopper: "Resolved, that in view of the fact that many of the Inspectors are unable to give the required time to the work owing to the pressure of their own business we recommend that the territory be divided into smaller

districts, wherever a competent and experienced Inspector can be secured, believing that many experienced men can be obtained if nearer their home.

"We believe that more inspection is necessary with a larger grant.

"We believe that a more complete inspection can be obtained through the Local Inspector with the funds at our disposal."

MR. SIBBALD: You have heard the resolution as drafted by the Committee. It simply means that at present the districts are large and it is hard to get an experienced inspector to go away from his own bees and own interests and give thirty or forty or fifty days to inspection work in the busy part of the season. It occurs to us that if the districts were smaller, and more inspectors appointed, they could look after a district nearer home at less expense, and perhaps have more interest in their work and get over more ground. Possibly there would be some bee-keepers whom they knew would be capable of inspecting their own bees as well as the inspector could. They could watch new bee-keepers and people who were buying bees in their country or township. It is just a sort of recommendation to the Department of Agriculture to try to work along these lines a little more and make smaller divisions. I think it will meet with your approval.

MR. BREUCKNER: There are more bee-keepers throughout the county than the Association has any idea of. Where foul brood exists in five or ten colonies we have to put up with that and their bees come to our apiaries and bring disease. I think if we could get inspectors to go and inspect every apiary it would be better than having inspectors from the College (not that they are not competent men); they have not the time; I have seen them come through and inspect two or three colonies where they ought to go through the whole lot of them. I think that is not doing justice to the bee-keepers when a keeper two or three miles away has foul brood.

MR. ARMSTRONG: I think we are going along about the right lines now. I know something about what this gentleman has said; last year I was up in their section. There seems to be a feeling among a great many of the older bee-keepers that a young man should not be sent out to tell an old fellow what to do. With every case except one I find that these young men who are sent from the College are just exactly the kind of material that we ought to have, only I think each of them should be sent out with an older person for the first season to make sure that he knows what he is doing. If they were out with some good man for one season I would not think of objecting to sending them out afterwards. I do not think it is fair to the students, because I think we have good material there and we are working along the right lines in sending them out, for they get training there and get started off right. There are some of the older bee-keepers who think they know all about it, but they are mistaken there. There are a good many of us older ones who are often mistaken. I think that when one of these young men comes to a bee-keeper's yard, they should use him just the same as an old man. If he is not doing right, tell him so, and point out his mistakes in a kindly way. I think the bee-keepers themselves could do a great deal more along this line as well as old inspectors. By dividing it up the way we were talking about, we could overcome the case mentioned previously.

I think this resolution is just exactly what we want. There is another thing that was not mentioned, and that is we will have to have more funds before we can do more work.

MR. EVANS: The resolution I have brought in seems to have been ignored. My idea was simply that every bee-keeper heavy in the business should pay a tax.

I do not see any reason why we should expect the Province to supply all the funds for examining our apiaries. Is it not worth while to pay a small amount of money to know that every hive in the Province is examined? I am willing to pay for the examination of them, and I think every bee-keeper should be willing to do the same.

MR. BYER: In connection with this resolution, I think it was understood that Mr. Evans was withdrawing this tax proposition because he admitted it was so unpopular, and there was no use considering it.

MR. EVANS: I did not withdraw anything. I said it should be referred to a committee.

MR. SIBBALD: I am sorry that Mr. Evans was not in attendance on the committee to which he belonged. We postponed it from time to time hoping to have him with us, and as far as I was concerned, I meant that motion for an amendment to the resolution.

MR. PETTIT: In speaking of this question I hope you will not think that I am wedded to any special method of managing apiary inspection. As the work has been placed in my hands, I have studied it carefully in the United States, and have endeavored to work out a system that will give the best satisfaction. I may say candidly that I am not satisfied with all the results we have got yet by any means, but I feel, as Mr. Armstrong said, that we are working along right lines. But one point that Mr. Armstrong made with reference to the young men going out, that if they could spend one season with an older inspector it would be better. We only have them spend a little time in order to save expenses as much as possible. With reference to the local inspector, we find that he often meets prejudice on another score. The smaller bee-keepers sometimes feel that he wants to put them out of business so as to remove competition.

MR. CHRYSLER: We find that it is almost impossible to have all the bees of this Province inspected. One hundred inspectors would not be sufficient even if they worked two months. I move that this resolution be adopted.

MR. LOWEY: I second this motion.

The resolution was carried.

EXTRACTED HONEY PRODUCTION.

JOHN A. LUNN, FINGAL.

You know that I do not feel capable of addressing the experienced bee-keepers gathered here, but it is necessary for someone to open the discussion on extracted honey production and I suppose I can just as well open the discussion.

Mr. Pettit said that he always explained at the College that the main thing in bee-keeping work was strong colonies, and that they always smile when he mentions it. This is the main thing in the production of any honey—strong colonies. I am just going, as briefly as possible, to give you a few minutes' address on my work from the beginning of the season.

The beginning of my season is the year before. I would introduce queens every year, that is to a great extent at any rate, for the production of extracted honey. I feel that it is necessary to work a queen for all that she is worth. I want her to "be up and doing" early in the spring and late in the fall, and for that reason would rather have a young queen. It is not necessary to say how and

when they should be queened, but I fancy along about the close of the honey flow the queen ought to be laying. She ought to be raised sometime in the honey flow of the previous season. After you once have your queen, watch your bees carefully until fall or winter. See that the queen does not disappear out of the colony and see that she is worth keeping. There are some queens that breeders raise from the same strain of bees which do not give as good results as is possible. Just watch that, and mark the hives of any that do not come up to the standard, then re-queen or destroy the colonies. I would rather have a few of good strong colonies than a number of weak ones.

Liberal Feeding. Feed enough that they will have plenty to eat until the following season. I think an extra ten or fifteen pounds of feed in the fall is the best assurance that a man can give to his bees for the following season's crop. If the plan is carried out properly I think you can turn almost that whole amount into bees before the following season. In the spring I equalize the brood as soon as the weather will permit. I generally in the beginning take a comb of sealed brood, if the season is warm enough that there is no danger of chilling, and place it in my weaker colonies. I have possibly enough bees to cover six combs. I would call that a fairly good start in the spring along about the first of May. Then I would gradually increase until I had the whole of the yard equal as nearly as possible.

As soon as I found that they needed it, I would add another story of brood combs and allow the queen to come up above. I have tried the method of placing the empty story down below, but in my case and in the case of another bee-keeper in our community it has failed. Whether we did not do it right or not I do not know; I merely placed it below and instead of going down they remained in the upper brood chamber, started queen cells and swarmed.

I make my winter nest large enough, then put an extra story on before I remove the winter cases, and pack them carefully, leaving them packed until the opening of the white clover flow. I then place the queen with one or two combs of brood in a brood chamber on the bottom board, filling out the brood chamber with empty combs or foundation. Place a queen excluder on that and the two sets of brood combs on top. A week or ten days later destroy all queen cells on the brood and you will have no swarming, but a large force of working bees for the crop. Then as soon as I find that there is any necessity of it, I use a third extracting super underneath the two supers that are on top.

I tried a new method of re-queening along this line in three or four colonies and would like some of the rest of the bee-keepers to try it this following season. I asked Mr. House if it would work, and he said that it would always work. Destroy the queen down below when you destroy the queen cells up above and place a cell in protector from your breeding queen. If that will work it seems to be the easiest method of re-queening. In four cases it worked, but I will not say that it works in all cases.

I think it is necessary in producing extracted honey to have plenty of stores. This year I did not have plenty—I do not know of anyone who had. One man said he lost $150 in May by not having enough stores. It is necessary to have enough stores to supply the bees in a poor season, and in a good season there would always be enough.

Remove the white honey before the buckwheat honey is coming in for the proper care of honey. I think possibly it is not necessary to tell this to an experienced lot of bee-keepers, but I knew a man who allowed all classes of honey to

go in together. Better have one thousand pounds of good honey than two thousand pounds of poor or off-grade honey.

MR. ELLIOTT: Most of us are interested in out-apiaries, and the handling economically of out-apiaries, and I would just ask if Mr. Root would be kind enough to give us an idea of the most profitable way to handle an out-apiary. Is it necessary to have an extra extractor outfit? Just a few moments on this question would please a goodly number.

MR. ROOT: We have tried three plans, and the last plan is to have one extracting outfit. We use a small truck that carries 1,200 lbs. to get the combs from the out-yards, take them to the central extracting yard where the conditions were favorable, and where the extractor is solid, so that we would have no trouble from robbers. We have a couple of men go out with the truck to bring in a load of about 1,200 lbs. of combs. One man would take off the combs and another would keep the extractor going, and we kept an eight-frame machine going as fast as we could. When the day's work was done the combs were put back into the hives. The truck we use is a commercial truck, costing about $800 or $900. I prefer a small truck rather than a large one for this simple reason, that one can go quicker. We can run this in at the rate of 25 miles an hour; when we wanted to go fast we could. Our farthest yards were 10, 12 and 15 miles away, and another was 100 miles away and we operated that with a truck. I started a man out in the morning, and he came back in the evening with his work all done. The advantage of it is that you can take that honey and deliver it right to the grocer or the wholesale house, and the truck can be used after the season is over. We kept it going from the first of May until yesterday when we went to Cleveland with honey. We do not ship on the cars any more.

MR. CHRYSLER: How should combs be cleaned out to carry over until the next season?

MR. ROOT: We put them right on the hives and let the bees clean them out. We used to let the bees rob them, but now we put them right back on the hives. Our practice is to have our combs clean and dry in the fall before going into the next season.

MR. BYER: I generally have my combs stored away wet, just as they come from the extractor, and cannot see any evil results if they are put on early in the fruit bloom.

MR. ELLIOTT: I have tried them both ways, and my experience is that you had better have them dried if you use a hand extractor. It will certainly granulate, and you could see the effects of it the next season, but in the case of a motor extractor being used it might possibly be all right.

MR. DICKSON: The wisest plan is to have your combs clean the fall before. Tier them up right on top of the hive. They will eat it out better and have less disturbance. It all depends on where you keep your combs if you do not clean them out the fall previous. There is a possibility of moisture, and possibly when you put these combs on in the spring you may find them granulated.

A MEMBER: How do you overcome the difficulty when the bees, instead of carrying it down to the lower story, leave it in the combs that you have put on the hives?

MR. ROOT: They will store it in the comb. I would rather have it in such shape that it would be available for the bees, but in my experience we do not like wet combs. In our locality we should be afraid that it would draw moisture.

MR. KROUSE: I set one or two supers in front of each colony and let them clean them out that way. Put them out in the morning, and then at night they may be carried in and they are nice and dry. I was afraid at first of robbing, but the next morning I was back to the yard, and I found everything nice and no trouble whatever. I would not advise you all to do that if you are near anybody else.

MR. ANGUISH: They are apt to carry it down if you tier it up very high. I always dry combs by tiering them up.

MR. SIBBALD: Put seven combs in instead of eight, and spread them further apart. The further you spread them apart the quicker they will be cleaned.

MR. BYER: Do you find any ill results?

MR. SIBBALD: I endorse all that Mr. Root has said about that. I believe that your honey will have a tendency to granulate quicker. I do not get them all dried out, because we have a late buckwheat extracting and it is almost impossible; but I am well pleased when I can get them dried out.

MR. ALLISON: I generally practice putting a quilt on top of the frames, putting the extracted combs on top. As soon as a few of the combs are cleaned out I take them out and spread the rest and have even got them to take down pollen sometimes.

MR. ARMSTRONG: I can second that. I use a quilt. When I put my empties back, the quilt is down on the brood chamber, and I just turn it up and set my supers.

MR. DUNN: We try to get them all dried and don't ask more than a few colonies in the yard to clean them out. We put them on the strong colonies, and it will be taken out all right, I know that the honey will candy more quickly if you do not get them cleaned out the fall before.

MR. CHRYSLER: I consider that the honey in extracting combs left over from the previous year when they are wet is inclined to slightly flavor the honey for the next year, and also there is a certain amount of fermentation that exists and which we do not notice, but I believe that is the case. We might have some fine looking honey that would not be up to quality.

MR. PETTIT: That point will depend somewhat on the state of the honey flow when these supers are put on in the spring. If there is a rush of honey comes on they would not clean them out so well. Personally I very much prefer having the combs cleaned out in the fall. As to the means of having them cleaned out, that is a pretty big problem. All of these methods of piling them back on the hive I have found slow. The method of having the bees clean out is dangerous if there is any disease around. If you are absolutely certain there is no disease and no neighbors very near, I would set the supers all out at once, spread the combs and be sure that weak colonies have their entrances contracted. They will have a jollification, and there is no danger of robbing afterwards if that method is employed properly. If your neighbors or yourselves have any disease, it should on no account be done.

MR. LUNN: There is always some pollen in the combs and if that pollen in the spring or in the winter gets a little bit mouldy would it have a tendency to taint the honey the following year? There is always a certain amount of pollen in the brood chambers.

MR. PETTIT: I do not think there is much danger from it. Of course we do not want to see much. We leave the pollen combs out of the supers the next year.

COMB HONEY PRODUCTION AND MARKETING.

Morley Pettit, Provincial Apiarist, Guelph.

I realize the lateness of the hour on this last afternoon of the last day, and before anyone goes away I feel like expressing by hearty appreciation of the splendid response that we have had to the little bit of advertising that was done with reference to this meeting. This is the first time that we have ever had three full days for the Ontario Bee-keepers' Association. This time we have had over one hundred in attendance the first morning of the first day and have over a hundred here this afternoon, the last afternoon of the last day. There were about three hundred and fifty here yesterday.

The subject that has been assigned to me is one of great importance. We all know, especially this year, that we are going too largely into extracted honey production. Those who have been teaching bee-keeping may be responsible for this to a certain extent. I have frequently urged those who have only a few hives of bees to start with the production of extracted honey because it is easier and they get better results. As soon as you learn to produce extracted honey, change to comb honey if you wish to do so. The result of this sort of teaching is that comb honey can scarcely be obtained in Ontario and this year we have a really good crop of extracted honey.

The following are the main points in extracted honey production:

1st. Strong colonies.

2nd. Good young queens.

3rd. The race of bees.

The method for securing strong colonies has been ably described by Mr. Lunn in his address on "Extracted Honey Production." The matter of the queen should be looked after during the latter part of the season so that colonies will go into winter quarters with their queen condition all ready for next season.

While we are on the queen question, I feel like throwing out a rule which Mr. Sibbald gave me some years ago, and which I have found reason to strongly endorse, and that is that a full colony producing extracted honey should at no time be without a laying queen if it can possibly be avoided, and any method whereby you destroy or remove the queen from a full working colony and leave them to raise a queen from a cell is objectionable. That may seem radical to some, but you know the risk you always run of the queen being lost because perhaps the cell did not turn out right or the queen was lost in mating and the colony is left queenless. If it is a small queen rearing nucleus your loss is slight but if it is a full working colony often that colony goes on queenless for a length of time before you discover the condition. Never have your full working colonies without a queen if you can avoid it.

Young queens should always be reared in queen rearing nuclei after the cells have been produced instead of their being reared in full working colonies.

With reference to the race of bees, in my experience I hav had the best results from a cross between the Italian and the Carniolan. The black bees are good cappers, but are objectionable for a good many reasons. The objection to the Italians is that they frequently will put the capping down on the honey so that it has a water soaked appearance.

The style of hive depends on the kind of hive you have. Splendid results have been secured from the sectional hive. Some of our most successful comb honey producers use shallow brood chambers, giving the colony one or two during the

winter, two in the spring while they are building up, reduced to one when the honey flow commences, thus crowding the bees into the supers. Those who have the hives with ordinary hanging frames like the Langstroth or Richardson cannot follow just such a method.

The method described by Mr. Lunn is one that I should recommend. Bring the colonies through the spring well; put that first set of combs on top, allow the queen to go up and occupy that set of combs until they are ready for the clover flow, then reduce to the one brood chamber again and put on your section supers at the beginning of the clover flow.

The style of super that you would use should be one which will protect the wood work of the sections from the bees as much as possible. The commercial comb honey super with the section holder where the sections rest on a strip of wood that protects the bottom side of the section is a very satisfactory super. The objection that I have to that super is that it outs your comb building a little farther away from the brood chamber and makes more space for the workers to climb over in going up into the supers to work. I must confess that I have not tried those supers with the section holders and should not judge. The supers that I have had the most experience with are the T tin described by Dr. Miller; a strip of tin folded T shape runs from side to side of the super and the corners of the sections rest on the flanges of this T tin. The objection to that is that the wood work is exposed to the propolizing of the bees but it gives good results. Always use separators in comb honey production and of the different kinds of separators the best results that I have secured are from the plain wooden separator bored full of 3-16 inch holes.

I do not like a plain separator that divides each section off into a little box by itself as the bees do not like to go into those little boxes to work; they like to be able to get back and forth. The fence separator, unless it is made very accurately, is going to give the surface of the capping a wash board appearance; there are going to be little ridges along the capping. If you do use the fence separator, be careful about the spacing of the slats in the fence; they should not be more than quarter of an inch apart.

The separator that has given splendid results in New York State is the wire cloth separator invented a number of years ago by Mr. Bettsinger of New York State and described on previous occasions at this convention, made of tinned wire cloth with a quarter inch mesh; this has given splendid results to New York bee-keepers. In any case use some separator that will have openings and be sure they are not too large to induce the bees to bulge the comb opposite the opening. Have the separator the full width of the section.

As to the style of section to use, the popular section in this country has been the 4¼ square section. The tall sections are more attractive and make a better appearance on the counter. If the two are placed side by side the customer will choose the tall section because it looks larger.

In putting the foundation in the sections, be sure that you use a full sized sheet that will just fill the section. The foundation fastener that has given me good results, where I have used the four-piece section, is the hot plate foundation fastener brought out by Mr. Alpaugh. Another method is to have square blocks attached to a board. These blocks must come to the middle of the sections. The sections are slipped over these blocks, then the foundation put in and a little melted wax is run around the edge to stick it fast to the sections. I always use the four-piece sections myself as the comb honey that I produce is always for

exhibition purposes, and I believe that you cannot get as satisfactory a section as in the one-piece.

When you have your section supers ready, put them on at the beginning of the honey flow and only on the strongest colonies. Anyone producing comb honey alone in an apiary and not producing extracted honey in that same apiary is working at a loss, because there are always colonies that either are weak or will not work in sections. I have at different times seen cases where even a strong first swarm would not go up into the sections at all, but when the sections were taken off and an extracting super given they went right to work.

Always select your colonies for comb honey production, choosing the strongest ones, and the ones shown by last year's record to be good workers.

We come now to the most difficult problem, and that is swarm control. I am free to admit that I have not tried comb honey production extensively in out yards. I have produced some comb honey in out yards and practised the shaken swarm method, but I prefer to produce extracted honey in out yards. Comb honey may be so produced, but a short time after you put your section supers on you will find most of them preparing to swarm unless you have managed exceedingly well. As soon as you find the swarming impulse come to the right stage, you either make shaken swarms by taking all the brood away and giving them the condition of a newly hived swarm, or hive the swarm on the old stand and give them the supers where the comb honey work has been started. See that the new swarm, either natural or artificial, is hived in the old stand so you get the bulk of the bees in the strong working colony.

In the brood chamber of that newly hived or newly shaken swarm, you will place not combs but frames, of either foundation or starters, and I have had the best results with the latter. My theory of it is this: when the clover flow is so short as it is I do not want them to have a chance to store honey any place but in the section supers. I do not want them to put honey in the brood chamber; I can look after that. Do everything you can to discourage the storing of honey in the brood chamber in colonies run for comb honey. Give them these frames with the narrow starters in the brood chamber, and with the frames, of starters give one frame containing a bit of comb, perhaps a half or third sized comb. That comb may not be necessary in some localities, but where I have had experience, the amount of pollen coming in at the time—when you have that strong colony of bees—is so great that they will take it up into the sections if you do not give them a place to store it in. A queen excluder should also be used on a new swarm, partly to help to keep pollen out of the super and partly to keep drones out of the sections.

As soon as we find that the sections in the first super are mostly filled and capping is started, if the honey flow is still well on another super of sections is placed underneath between that and the brood chamber. The time of putting on this second super will depend on the strength of the colony and the state of the honey flow. I have often put on two supers at once. In hiving a strong colony, put the two supers on first thing and they go right ahead. After the two supers have been placed, if you are getting near the end of the honey flow, you would need to watch carefully not to give more room for fear of having unfinished sections. We do not want to crowd them and, when we come to that time, we either put the next super on top or else put on a super of shallow combs for them to work on. I have usually simply put on top a super of sections; if it is put on top of the ones they are working at, it is a kind of a safety valve and yet they will go on finishing much better the work they have already started. That has to be watched very carefully.

When the sections are finished and ready to come off, the two methods of taking off these sections are: (1) the Porter bee escape, and (2) driving the bees out of the supers with smoke. Of the two I prefer the Porter bee escape. The objection raised to them is that, if there is no uncapped honey in the sections, the bees are liable to uncap a little of the honey to fill themselves. I have not been troubled that way to any extent. We might hear from some of the members in the discussion.

After the comb honey is taken off it is important to grade it carefully. Our grading rules require that for No. 1 or fancy the cappings should be white and even, the wood work should be carefully scraped clean and the honey should be capped out to the wood with only perhaps a few stray cells—that would be for No. 1 sections. In putting this up in crates for the market you should be careful about the crating of it. It is usually put on the market in the glass-front 12-section or 24-section wooden crates. The corrugated shipping case is becoming popular; it is not a good show case, but it is really one of the best for shipping any distance. This case was brought on the market by J. E. Crane of Vermont, and is now made by a Niagara Falls firm. Paper or wooden cases should be packed in carriers, containing six or more cases each. These carriers should be strong enough to carry the goods properly, and should have not less than two or three inches of straw or excelsior in the bottom as a spring to take off the jolt of the handling of the goods. The carrier should have handles so that one man can take hold of each end. Nail a piece of lath on each side, a little nearer the top than the bottom; they project about four inches, and this answers a double purpose—they make convenient handles for the freight men to handle these boxes and they make it convenient to set the boxes on the end or side, or top. When they pick it up by the handles they are going to set it down right side up.

I think in the question of transportation we want to make it as easy as we can for the freight handlers to handle our goods well. Make it handy by putting handles on heavy boxes, then mark on the top "Glass," or "Fragile," also "This side up with care," and then have it clearly and perfectly addressed for the handlers. In the talk on transportation this morning the question of loading was mentioned. If you are loading a car see that your combs are placed lengthwise of the car and that they are packed solidly. In shipping lake and rail you have to remember the extra handling that takes place.

Mr. Root: I wish to endorse practically everything that the speaker has said. One important point is that if you Canadians get the kind of crop of honey next year that you got this year, I think you are going to have a glut in your market and should go into comb honey. I see this coming in our country, and I know what I am talking about when I say that we are not making as many section as we used to. We ought to emphasize the fact that comb honey has a flavoring about it that one does not find in extracted honey. Produce comb honey.

Mr. Anguish: Which is the most profitable, comb or extracted honey? I might answer it in this way. No man can raise comb honey alone and make a profit. If a man cannot raise comb honey and get about double out of it he should quit. Our Agricultural Representative was out at our yards this summer from London. He wanted me to test out one colony of bees for extracted and comb honey, and one for extracted alone. I went farther than that. That would not be a test. So I took four colonies as equal as possible. I ran one bunch for extracted honey altogether, and the other for comb and extracted honey. I increased them

to six. The result is that I got a good flow from the extracted ones, but there was a difference of $5.80 between these four colonies per colony this season in favor of comb honey.

MR. ROOT: I told you so.

MR. PETTIT: We have to remember that when Mr. Anguish is speaking that he is one of our most successful comb honey producers, and the average or under-average bee-keeper who produces comb honey produces honey that does not bring as good a price. I am safe in saying that more than half of the comb honey put on the market ought not to be put on the market at all.

A MEMBER: You said that you hive the swarm on starters. Did you have any difficulty in the queen going up in the section?

MR. PETTIT: We use the queen excluder. We only use an excluder in hiving a swarm on starters, not on the regular colonies.

As soon as the sections are taken off you have a brood chamber there that is not in a very good condition. The extra comb that you put in to catch the pollen has given the queen a chance to lay eggs and not to follow up the comb builders, and the result is that they have a lot of drone combs. It is not an extra good colony. That is one strong objection to comb honey production; you are doing that at the expense of your colony, and that has to be taken into account in that $5.80 that Mr. Anguish spoke about. You can go over that colony and give them combs. If their queen is all right, you can give them good combs right then, and they can build up the colony.

MR. KROUSE: If a representative came to our apiary and asked me to conduct that experiment, the results would have been the other way. I have not much experience in comb honey, and I am sure that the extracting colonies would come out ahead quite a way.

MR. CHAS RYDE, Guelph: My experience has been a little different from Mr. Pettit's in the matter of handling comb honey. Some years ago I followed the A.B.C. directions, and followed largely Mr. Doolittle's plan of putting the section super underneath the first one. I found that I had a lot of unfinished sections. By reading up the data very closely I found that our friend Mr. Doolittle had changed his opinion, and he got best results through putting the extra super on top, and I think it is the best way to follow the working part of your colony by putting the extra supers on top and you can soon tell whether you will need them or not.

MR. PETTIT: What I meant to say before was that you watch your locality and your honey flow, and, if you know your locality and there is a strong flow, put it underneath; if not, put it on top.

MR. RYDE: In the matter of shipping honey, is there a bee-keeper in the province who is ashamed of his honey. Why should he not label it "Honey" when he ships it out? That little objection is not the right thing. If we have something we are ashamed of, I think we should not be selling it.

MR. PETTIT: You know that freight handlers have been known to be dishonest. I do not think there are any bee-keepers here who would be ashamed of their honey.

MR. MOYER, Toronto, spoke briefly on the marketing of honey.

The convention then adjourned on motion of Mr. Hopper, seconded by Mr. Krouse.

ANNUAL REPORTS

OF THE

DAIRYMEN'S ASSOCIATIONS

OF THE

PROVINCE OF ONTARIO

1913

(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE)

PRINTED BY ORDER OF

THE LEGISLATIVE ASSEMBLY OF ONTARIO

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1914

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29-37 Richmond Street West
TORONTO

To His Honour Sir John Morison Gibson, Knight Commander of the Most Distinguished Order of St. Michael and St. George, a Colonel in the Militia of Canada, etc., etc., etc.

Lieutenant-Governor of the Province of Ontario.

May it Please Your Honour:

The undersigned beg to present for the consideration of Your Honour the Report of the Dairymen's Association of Eastern Ontario for 1913, and the Report of the Dairymen's Association of Western Ontario for 1913.

Respectfully submitted,

JAMES S. DUFF,

Minister of Agriculture.

Toronto, 1914.

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DAIRYMEN'S ASSOCIATION OF EASTERN ONTARIO.

OFFICERS FOR 1914.

President—J. A. SANDERSON, Oxford Station.
First Vice-President—J. N. STONE, Norham.
Second Vice-President—R. G. LEGGATT, Newboro.
Third Vice-President—JOSEPH McGRATH, Mount Chesney.
Secretary—T. A. THOMPSON, Almonte.
Treasurer—JAS. R. ANDERSON, Mountain View.

Directors:

Ontario, Durham, Victoria and Haliburton	H. GLENDINNING, Manilla.
Peterboro	G. A. GILLESPIE, Peterboro.
North Hastings	T. H. THOMPSON, Madoc.
South Hastings	WILLETT FARLEY, Cannifton.
Northumberland	J. NELSON STONE, Norham.
Prince Edward	T. G. WRIGHT, Picton.
Lennox and Addington	FRED ALEXANDER, Napanee.
Frontenac	JOSEPH McGRATH, Mount Chesney.
Leeds	GEO. LEGGATT, Newboro.
Dundas	J. A. CAMPBELL, Ormond.
Glengarry	CAPT. JNO. GILLIES, Alexandria.
Prescott	NEIL FRASER, Vankleek Hill.
Stormont	WM. BROWN, Dickinson's Landing.
Russell	W. H. OLMSTEAD, Bear Brook.
Renfrew	J. B. FERGUSON, Renfrew.
Lanark	HUGH CLARK, Smith's Falls.
Carleton	FRED. DILWORTH, North Gower.
Grenville	JAS. A. SANDERSON, Oxford Station.

G. G. PUBLOW, Chief Dairy Instructor, Kingston.
L. A. ZUFELT, Superintendent, Eastern Dairy School, Kingston.

Auditors, MORDEN BIRD and J. W. HYATT.
Representative to the Canadian National Exhibition, HENRY GLENDINNING, Manilla.

FINANCIAL STATEMENT FOR 1913.

RECEIPTS.		EXPENDITURES.	
Cash on hand from previous year	$855 25	Kingston Pay Sheet for Directors and Stenographer	$705 80
For members' fees	256 90	Pay Sheet No. 2, Toronto	125 25
Kingston and Frontenac grants	400 00	Pay Sheet No. 3, Smith's Falls	111 20
Receipts from programme advertising	215 00	Pay Sheet No. 4, Toronto	174 80
Legislative grant	2,500 00	Prosecutor's Expenses	300 53
Money received from prosecutions	437 23	Prosecutor's Salary	400 00
Interest from Standard Bank for 1913	50 25	Lecturer's Expenses	426 10
		Advertising and Printing	393 10
		Rural Publishing Co., for subscription to Farm and Dairy	129 30
		District Meeting Expenses	332 88
		Stationery, stamps, Telephone and Express	75 25
		Officers' Salaries	500 00
		Balance on hand, December 30th, 1913	1,040 42
Total	$4,714 63	Total	$4,714 63

OFFICERS FOR 1914.

President—J. B. Muir, Ingersoll, Ont.
First Vice-President—R. Myrick, Springford, Ont.
Second Vice-President—James Bristow, St. Thomas, Ont.
Third Vice-President—R. W. Stratton, Guelph, Ont.
Secretary-Treasurer—Frank Herns, London, Ont.

Directors:

J. N. Paget, Canboro, Ont.
T. Ballantyne, Stratford, Ont.
J. H. Scott, Exeter, Ont.
Wm. Bothwell, Hickson, Ont.
Jas. Donaldson, Atwood, Ont.
J. MacHoover, Burgessville, Ont.

Auditors:

J. A. Nelles, London, Ont.
J. C. Hegler, Ingersoll, Ont.

Representatives:

Canadian National Exhibition, Toronto: Frank Herns, London; Robt. Johnston, Woodstock, Ont.
Western Fair, London: Frank Herns, London; John Brodie, Mapleton.

FINANCIAL STATEMENT FOR THE YEAR ENDING DECEMBER 31st, 1913.

Receipts.

Cash on hand from previous year	$453 25
Members' fees—333 at $1.00 each	333 00
Legislative grant	2,000 00
Money received from prosecutions	243 00
Donation for special prize	50 00
Sale of dairy exhibits	1,690 00
Advertising in convention programme	145 00
Miscellaneous	19 74
	$4,933 99

Expenditure.

Cash paid for prizes: Cheese and Butter, $400.99; Dairy Herd Competition, $49.00; Special C. S. Co. $50.00	$499 99
Expenses for Convention	131 87
Stenographer's salary, $357.00; Director's fees and expenses, $163.85	520 85
Postage and stationery, $166.93; Printing, $184.00; Advertising, $183.82	534 75
Judges' fees and expenses, $39.50; Lecturer's expenses, $16.05	55 55
Prosecutor's salary, $205.00; expenses, $55.55	260 55
Periodicals for members	231 27
Cost of reporting	75 00
Auditors' fees	13 00
Purchase of exhibits	1,688 55
Office expenses, light, cleaning and sundries	154 26
Office furniture, $41.34; office rent, $120.00	161 34
Telegrams and telephone, $50.37; express and cold storage charges, $29.70	80 07
Half fine paid to factories	121 50
Refund to members	1 00
Purchase of demonstration butter	85 77
Total	$4,615 32
Balance	318 67
	$4,933 99

Dairymen's Association of Eastern Ontario.

The Thirty-seventh Annual Convention of the Dairymen's Association of Eastern Ontario was held in the Town Hall, Cornwall, on the 7th, 8th and 9th of January, 1914. The meetings were well attended by the farmers of the neighborhood, and by dairymen from many sections.

G. A. Gillespie, Esq., Peterboro, the President of the Association, occupied the Chair.

PRESIDENT'S ADDRESS.

G. A. Gillespie, Peterborough.

It is with pleasure that I welcome you to this, the thirty-seventh Annual Convention of the Eastern Ontario Dairymen's Association, in the town of Cornwall, one of the largest sections of cheese production in the Province.

Last year our hopes were high for a banner year in the dairy business, but as we drew to the close we must admit it has been a very disappointing year. Taken as a whole, the twelve months have witnessed at least as great a degree of trade as in 1912, but the gain in the first half alone counter-balanced the loss of the second half, and the new year will be entered upon under slowing down conditions. Prices for dairy products have maintained a fairly high level, and prices for cattle of all kinds, especially young stockers, are the highest on record.

The pause in the business world is wide, and may be accounted for by the money stringency in the great financial centres, financing of the Balkan war and the enormous drain on capital for development purposes, all over the Dominion. All this has its effect on the dairy industry, and tends to make those who are engaged in that business discontented; but as we look around we find that all the other industries during the past year have been equally disappointing. Our disappointments must be forgotten with the year 1913, looking forward to overcome all obstacles and push on to success our great national business—the dairy industry of Canada.

The change in the United States tariff which came into effect on October 3rd, by which milk and cream enter the United States free of duty, has curtailed the make of cheese and butter during the fall months, and will have a tendency to raise the price for the producer. The enormous shipment of cattle into the United States will have its effect on this year's production of milk, unless the farmers who are selling milch cows are only selling poor ones, culled out by the cow testing work, and will replace many of the poor cows by young heifers raised from their best cows. I firmly believe that with half the cows of last year, the best being retained, well fed and cared for, a greater production of milk could be produced that in 1913. The dry weather which prevailed during the early summer over the greater portion of the province and the increased demand of our cities for cream and ice cream, has again curtailed our export trade.

The export of cheese for the season just closed shows about 200,000 boxes short of the season of 1912, and with the present outlook of high prices for young stockers, increased demand for milk and cream from our cities, as well as the cities across the line, I believe the year 1914 will see a greater falling off in the production of cheese than in 1913, unless the price of cheese advances on account of short make and the price of butter is lowered on account of the increased make. The quality of our cheese this season has been well maintained, and as far as reported no serious complaints have been heard. The question of short weights has been greatly on the decrease, but the complaints on broken boxes are just as numerous.

Last year we exported only seventy boxes of butter; this year some seventeen hundred packages of unsalted butter have been exported to the Bristol market. Our make of butter for the season 1913 showed an increase, but owing to our increased population it has been taken care of by the home market. The demand from British Columbia and the North-west has fallen off on account of shipments of New Zealand butter being landed at Vancouver.

The season of 1913, being extremely hot and dry, the quality of butter was slightly undergrade. This will be more noticeable on butter now taken out of cold storage.

I am pleased to note the cow testing work has been increased again this year, and that more farmers are availing themselves of the opportunity of finding out, practically without cost, the production of their individual cows. I hope the Department of Agriculture at Ottawa will continue to carry on this very important work.

I wish also to congratulate the Department of Agriculture at Toronto upon the good work accomplished by Mr. Publow and his efficient staff of instructors.

In concluding my address, I would again emphasize the necessity of our standing together shoulder to shoulder at this critical time, carefully sizing up the situation, on account of the changes now taking place, act slowly and cautiously, so as not to demoralize our great national industry—dairying—which has built up a name for Canada. I trust the leaders of thought at this convention will be able to point out to those present and through the public press our duty at the present critical time, and that all engaged in the dairy business will go forward in 1914 and show to the world that Canada can overcome all obstacles in the future as in the past.

MANAGEMENT AND CARE OF THE DAIRY HERD.

H. Glendinning, Manilla, Ont.

The care and management of the dairy herd is a wide subject, and in an address of this kind we have to limit ourselves to a short review of a few of the leading points.

The Cow.—It will be found most profitable for the dairy farmer to confine himself to some one of the well recognized dairy breeds. I do not mean by this that they should be pure-bred and registered cows. Having made a selection of the breed, always use a pure-bred sire of that breed, and see that he possesses a strong constitution and is descended on both sides of his parentage from heavy milkers or producers of butter fat.

It will be found the most satisfactory plan for the dairy farmers to raise their own cows. In the creamery districts this is easily done, as there is always plenty of fresh skim milk. Feed the young calf for the first ten days the whole milk from the mother, then gradually add a little skim milk, so that at the end of three weeks the whole milk can be cut out altogether. As the whole milk is reduced, add a little ground flax seed to take the place of the natural fat of the milk. This, along with grass in the summer—or if in the stable in the winter feed alfalfa hay, corn silage and roots—will be all the feed required to raise a good calf. If alfalfa hay cannot be had, feed some ground oats to take its place.

Young heifers should not drop their first calf until they have reached the age of thirty months. This will give them a chance to develop a strong vigorous body.

The management of the dairy herd in the early summer months is a comparatively easy matter. At that time the cows are in the field with plenty of fresh air, sunshine, succulent and palatable grass and pure water. These are the ideal conditions for the dairy cow.

Having met many of the farmers in Eastern Ontario during the past seventeen years in connection with Farmers' Institute work, conventions and district dairy meetings, I notice a great change in their dairy methods. Formerly, most of the cows were milked for only a few months during the summer. This system is gradually giving place to dairying the whole year round. Many of the cows are now milked a period of about ten months. This has been brought about largely by the demand for milk and cream for the town and city trade. With this change, the production of milk during the winter becomes an important matter.

Stable Ventilation.—Clean, sanitary milk can only be produced from healthy cows kept in clean, well-lighted and well-ventilated stables, with good food and pure water. The stable should be well lighted by large windows. I prefer the sash being one solid piece and the lengthwise being up and down. This should be made stationary at the bottom but arranged to drop inwards at the top. This permits the windows to be partly opened on warm days without any draught striking the cows. During cold weather the windows should be kept closed and the air conducted from near the ground outside up a flue and discharged into the stable near the ceiling. The foul air should be removed from the stable from near the floor, as that is where the deadly gas settles after being thrown off by the animals' lungs. This can be accomplished by having a tight board flue made to carry the foul air up from the stable floor and above the ridge of the barn. A hinged door should be put on the side of the flue near the ceiling, so that it may be opened when the stables get too warm. By keeping the opening closed in cold weather it prevents the escape of the warm air in the body of the stable and carries off the cool foul air from the floor. A common error is made by supposing that warm air is foul air and that cold air is pure. The reverse is apt to be the case in our stables.

Our farm animals could live several days without food or water, but they could not live many minutes without air. Therefore, fresh air is the most essential element in the maintenance of life. It is the cheapest and most easily obtainable of all the life sustaining elements, but judging from what we see in many stables, farmers use it as if it was the most costly food, from the economical way they permit it to enter their stables. I would not have dwelt so long on this subject of ventilation, but, judging from what I have seen in many of the best barns in the Province, I am satisfied that this is the weakest point in the housing of stock in our country.

Water.—The importance of water will be more clearly understood when we consider that an average cow as she stands consists of about 50 per cent. water, her milk about 87 per cent., and her blood about 90 per cent., and that all the food is carried through the system by the action of water. The water should be pure spring water, free from any contamination, and constantly in front of the cows in the stable where she can drink at will. If allowed to drink whenever she pleases, she will never drink enough at one time to chill her. A cow that gives a large flow of milk must of necessity drink a large quantity of water. The day has gone by when a man can afford to stand and pump water by hand for a large number of cows. Some power should be used for that purpose, such as wind, gasoline, electricity, or otherwise. This permits the well or spring to be located a considerable distance from the barns, where it will not be contaminated by sewage from the barnyard. A storage tank should be provided so that the drinking troughs can be supplied automatically by gravitation, but held in check by a valve.

Cement Floors and Mangers.—Owing to the high price of lumber and its comparatively short life in the stable, it is hardly necessary to say that cement floors and mangers are the best from a sanitary and economical standpoint. The stables should be white-washed every fall, which will add much to their light and sanitary condition; the manure removed from the gutters twice every day, and the cows curried and brushed daily. This adds much to their comfort and health.

Feeding.—What to feed for milk production is always an interesting subject. An analysis of milk shows that it contains about 87 per cent. of water and 13 per cent. of solids. Of these solids, there is 3.7 per cent. of butter fat, which is the only part of the milk that the buttermaker is much interested in. It is the most valuable element of the milk from a commercial standpoint. From a feeder's standpoint, he takes but little stock in a high percentage of fat in food for milk production. Suppose we had two sister cows standing together in the stable, receiving the same feed and each giving 30 pounds of milk per day and both milks testing the same amount of butter-fat. If we were to separate the cream from the milk of No. 1 and feed that cream to No. 2 and ask a man who knew little about cows, "How much more butter-fat would No. 2 give the next day than No. 1?" he would be apt to answer that she would give about twice as much, but such would not be the case. The amount of milk and the percentage of butter-fat that it contained would be about the same as she was in the habit of giving.

What we look for in a good milk-producing food is one that contains a high percentage of protein. You will notice by the chart before you that 100 pounds of average milk contains 3.6 pounds of protein. This protein in the milk is valuable to the cheesemaker and the most valuable element to the feeder. There is no season of the year that it so easy to feed cows as in the month of June. At that time we have all the natural conditions at their best for feeding. The air and sunshine, with plenty of pure water, succulent and palatable grass, are the ideal conditions. In all parts of Eastern Ontario, June or Blue Grass and White Clover grow naturally, and they are among the best feeds for milk production, owing to their palatability, succulency, and the high percentage of protein they contain. As winter dairymen we should try to get as near these June conditions as possible.

We should aim to get cheap food mostly raised on our own farms that will

from some other source, such as the clovers, oats, peas and vetches. The best supplement to corn silage is alfalfa hay, and where alfalfa can be successfully grown protein can be produced at less cost than in any other way. If protein has to be purchased, we can secure it from such feeds as wheat, bran, oilcake, cotton seed meals, gluten meal and dried beet pulp.

Q.—Did your cows do better this year than last?

A.—They did better last year, because we had more grass last year. It was very dry with us this year.

Q.—Why didn't you feed your cows during the dry spell?

A.—It is pretty hard to feed when you cannot buy it. We did pretty well, but we did not feed equal to the amount of grass they got the year before. We supplemented the pasture by feeding alfalfa hay; but when you are handing out the feed it is not the same thing as the cow eating all she wants of nice fresh grass.

Q.—How much did each of your cows make for you during the year?

A.—About $72, and then we had the skim milk in addition.

Q.—How much pork did you sell?

A.—I received from $700 to $800 for pork.

Q.—How much did your cows make for you the year before?

A.—About $85 each.

Q.—Could not alfalfa hay be grown everywhere, provided you had the right cultivation, and if the soil was properly drained?

A.—Under natural conditions in this country there is a good deal of land that is not in shape to sow alfalfa seed on. I have never yet seen alfalfa grown successfully on black muck land. It won't stand the winter. And I have never seen it grown on wet, sour land; it may do for one year, but it soon kills out. In order to grow alfalfa successfully you must tile drain your land, if it is wet. There is a good deal of land in the country that is drained naturally. There is a lot of land in the Ottawa Valley and just north of this town of Cornwall that is level, and it would be a waste of money to sow alfalfa on it unless it was tile drained.

Q.—How did your corn crop do this year?

A.—I had a number one crop.

Q.—Do you always get a good crop of corn?

A.—Yes, I haven't missed a good crop of corn for the last sixteen or seventeen years.

Q.—Where do you get your seed corn?

A.—I get it from the county of Essex. I have been buying it from Mr. J. O. Duke, Ruthven.

Q,—Do you buy it on the ear or shelled?

A.—I would not take shelled corn as a gift; I buy it on the ear. If you were in the corn country and saw how things were managed, you would not buy shelled corn. The best of the corn is always selected to be sold on the cob. The nubbins and anything that is inferior is thrown into a pile to be shelled. If you sow seed from nubbins, you cannot expect anything else.

Q.—What kind of corn do you plant?

A.—This year I have been growing Leaming and Wisconsin No. 7. I cannot say which is the best.

Q.—Won't it mature earlier than the Leaming?

A.—Yes, a few days earlier, and I like it on that account.

Q.—Don't you think it is a better corn for this country on that account?

A.—Yes; what I say about it going down is the only objection I have to it. It makes a very good ensilage.

Q.—What did you get for your milk per pound of butter fat?

A.—Our cream is taken away from our door and the price varies from month to month. It was about 24c. to 25c. in June. That is after everything has been deducted, the net price. We have been getting 30c. for October and November.

Q.—Not over 75 per hundred for 3 per cent. milk.

A.—Yes, but we do not have any 3 per cent. milk, we have 5 per cent. milk.

Q.—In June?

A.—Yes, the average in June was 4.9 per cent.

Q.—You must have Jerseys?

A.—Yes, of course they are. I have had it go to 6 per cent. this season of the year, but that is not a fair time to make a deduction as to what a cow will do when she is nearly dry. Some cows will go over 8 per cent. at this time.

Q.—Have you had any experience with a crop of sweet corn?

A.—No, we only grow it for table use. I have heard of farmers having good results from sweet corn. I know the cows will eat it up very greedily.

Q.—What value do you put on your skim milk?

A.—It is worth a good deal more sometimes than others. Just recently I sold a little Jersey heifer calf. It was one of the smallest calves we have ever had. I told my man to turn it into veal, and he said it was too small, and I said "Veal is a good price." The calf was sold at the end of five weeks. It was fed half new milk and half skim milk, and it sold for $11.60. That skim milk is worth a good deal more to-day than when we would have to sell such a calf for $5 or $6. You will get a better price for skim milk to-day by feeding it to pigs than you would two years ago. I am not prepared to put any fixed value on skim milk.

Q.—Do you feed the skim milk when it is warm and before you go to breakfast?

A.—No, we don't milk the cows till after breakfast.

Q.—Do you milk after seven at night?

A.—No, we do not.

Q.—Don't you think it is better to milk at the same hour in the evening as in the morning?

A.—I do, but you cannot keep your men in good humor and do it. We start to milk about half-past four in the evening, we get more milk in the morning than we do in the evening.

MR. D. A. GRANT: I can tell you the net profit from each of my cows. I have my herd divided into two divisions. I have some heifers. I only had nine cows this year.

No. 1 heifer: This heifer gave in 12 months 11,821 lbs. of milk, and the test averaged 3.7 per cent., or 442.4 lbs. of fat. We get a better price for our fat than you do. I ship to Montreal, and I get 35c. per lb. butter fat in summer time and 45c. in the winter. The express charges are 2c. per pound, which has to be deducted.

Q.—How far are you from the station

MR. GRANT: I am a mile and a half.

Q.—How much is that worth each trip?

A.—Not worth as much as it is to go to the factory, because I only go three times a week in summer and twice a week in winter. I milk before breakfast so that I can get there in time. The value of the butter fat from that cow was $163.68, and her feed cost $58.46, leaving me a net profit of $105.22, saying nothing of the calf. (Applause.)

Professor Dean: You haven't allowed anything for labor, interest on your investment, and so on?

A.—No. Another thing I am not charging is the skim milk, which is worth from this cow I consider 20c. per 100 lbs., and that will amount to nearly $100 for the whole herd. I sold the calf from this heifer when it was ten months old for $60. (Applause.) I am not giving credit for that, I am just giving the net profit over feed. This No. 1 was a two-year-old heifer.

No. 2 gave 10,435 lbs. milk, testing 3.6, or 374.1 lbs. fat, worth $138.41; the feed cost $57.18, leaving me a net profit of $81.23. This was a three year old. She aborted, and for that reason did not do so well.

No. 3 gave 5,826 lbs. milk, testing 3.9 per cent., 227.2 lbs. fat, worth $84.06; her feed cost $31.39. I feed my cows according to what they produce. Net profit $52.67.

No. 4 gave 6,902 lbs. milk, testing 3.5; 241.5 lbs. fat, bringing $89.35. Her feed cost $36. Profit, $53.35.

No. 5 gave 5070 lbs. milk, testing 3.6. 182.5 lbs. fat, worth $67.52; feed cost $33, leaving me a net profit of $34.52.

No. 6 gave 5,406 lbs. milk, testing 3.9, 210 lbs. fat; price $77.96. Her feed cost $34.50, netting me $43.46. These six heifers brought me in a net profit of $370.45.

I only had three mature cows.

No. 1 gave me 11,248 lbs. milk, testing 3.5. 387 lbs. fat, bringing me $143.19. Her feed cost me $61.73, leaving me a net profit of $81.46.

No. 2. This was the best cow of the lot, she gave me 9,852 lbs. milk, testing 4.6, 458.8 lbs. fat bringing me $169.75. Her feed cost me $53.10 leaving a net profit of $116.64.

No. 3 gave me 9,653 lbs. milk, testing 4.1, 396 lbs. fat, $146.52. Her feed cost $47.47, leaving a net profit of $99.05. The average of fat for the herd was 3.8. The net profit on the three cows was $212.05. The total sum received from the heifers and cows was $1,080.44. Total cost of feed $363.25. (Applause.)

Q.—How do you get at the cost of the feed?

A.—I weigh it every few days.

Q.—What price do you put on the pasture, and what price on the hay?

A.—I put the ensilage at $3 per ton in the silo. I can grow it and put it in the silo at that price and make money on it. Hay $10 per ton in the barn. Last winter I paid $1.25 for meal. This winter it is costing me $1.46. I feed oil cake, ground oats, and barley and bran; I use a little cotton seed, but not very much.

Prof. Dean: What size farm have you?

A.—100 acres, but only 60 acres cleared.

Q.—Have you any other source of revenue except from these cows, if not your net revenue would be about $600?

A.—Certainly I have: I raise a good many potatoes.

Q.—I would like to get at how much money you made off your farm?

asked; in fact I did not expect to say anything.

Senator Derbyshire: He is living right on the farm and getting his living, and making all this money as well.

Mr. Grant: I consider I make a great deal more than that.

Senator Derbyshire: If he lived in the city he would be an ordinary citizen, and now he is a prince in the land. (Great applause and laughter.)

John Hyatt: We have discovered that we have something better than alfalfa down in Prince Edward County. We grow a great many peas for the canning factories, and we spread the straw and make hay and we find it is one of the very best foods. It has a value equal to silage.

H. Glendenning: That would be well in Prince Edward County, where you can grow peas, and this is a sort of by-product; pea straw contains a lot of protein and makes a splendid supplement to corn silage. I thank you for your patient hearing.

The Chairman: Mr. John Hyatt appears to have some information that will be of value, and as we have plenty of time I will call upon him for an address.

ADDRESS.

John Hyatt, West Lake.

We are trying to do some dairying in Prince Edward County, but are following the wrong lines at the present time, as we are selling our cattle. The buyers are coming down there and blinding our eyes with gold and taking our stock away from us. One dealer in our county told me that he has not failed to ship two carloads a week, and he is only one of a number. I consider that we are standing at the parting of the ways. Our cattle are going. What are we to do? I think there is only one thing to do, and that is to separate our cream and make butter. We will have to raise every calf, and we will make more money than we are making now. We have not the advantage of being near a big city, or we could send our cream in as Mr. Grant is doing and making big money. We are now being offered very big prices for our calves, and it is a great temptation to sell, but we will have to raise these calves and make them into cows. It is just as poor a policy to sell all the calves as it would be for a farmer to sell all his seed grain and have nothing to sow in the spring. I am very happy to say that I am a farmer. I am proud of that fact and I am not ashamed of my calling. This is our time to make money, and we should be up to our business and not let the dealers get all the profits. The skim milk that we have been valuing at 20c. and 30c. will bring us 75c. if fed to pigs. One of the members of the United Farmers of Alberta said to me this summer: "We want cattle, and we have to come to Ontario to get them; but you have no organization in Ontario, and if we want ten or fifteen carloads we cannot order them." That is one of the things we must do in Ontario—organize and co-operate. In Manitoba, Alberta and Saskatchewan they have 20,000 farmers united as one people. They will buy our apples, and, suppose they took three barrels apiece, that would be 60,000. They can give us a better price than the dealer, and then buy them cheaper than they are getting them from the dealer. They would like to buy canned goods from us, and a

selling tomatoes at less than a half a cent a pound, and they were selling in Toronto at 8c. per pound. A market gardener, fifty miles out of Toronto, shipped in a car load of cabbage, and the price he got was three-quarters of a cent a head, and they were selling retail in Toronto at fifteen cents a head. The farmers have been the burden-bearers in this country for a long time, but now we are coming to our own, and if we can get in closer touch with the market and get a proper share of the prices obtained, we will be coming into our own. (Applause.)

Senator Derbyshire after complimenting those in attendance upon the splendid addresses and status of the dairy industry, said: "We have made more money than any other section of the Dominion, because we have been steadfast and have made the finest cheese, and have not wandered from one business to the other. There is no business on earth that will beat the making of fancy cheese, if you do it in a proper way and deliver the milk in the best possible condition and pay a good price for making and encourage the good men to stay in the business. There is nothing that will pay better in Ontario for the next forty years than the making of the finest cheese. Of course we can furnish the United States with a little cream on the side, but our main and great business is the making of the finest cheese during five and a half months of the year. Cheese is something that everybody wants if it is properly made."

IS COW TESTING "WORTH WHILE?"

Chas. F. Whitley, Dairy Division, Ottawa.

It being understood that cow testing is a methodical, not spasmodic, endeavour to ascertain the production of milk and fat of each cow so as to determine her profit above the cost of feed, let us enquire what is claimed for the system.

First of all definite knowledge is gained from the individual's record that gives a sound working basis for steady improvement. A man may be drowned while wading a stream that *averages* only three feet in depth; cow testing gives a firm handgrip to lift one from the treacherous quagmire of mere guess work and *averaging* of the herd's yield, planting him on the solid ground of accurate knowledge.

Exactness, the salvation of modern progress, may well be applied to the dairy herd, for you don't allow a carpenter or engineer to guess at things like our primitive ancestors, you want their weights and costs and measurements, so why should any unprofitable cow be allowed to deceive?

The mind of the master is thus aroused to secure efficiency in each cow he keeps. Apart from short crops, or poor feed, sickness, etc., it must be conceded that poor yields of milk and fat frequently happen, even with mature cows, so cultivation of the dairy herd is just as requisite as pulling mustard or spudding thistles. No one wants weeds.

Notice these differences in yield and revenue between cows in the same herd, all fed alike.

DIFFERENCES BETWEEN COWS IN THE SAME HERDS.

Herd at	Best Cow			Poorest Cow			Difference		
	Age	Lbs. Milk	Lbs. Fat	Age	Lbs. Milk	Lbs. Fat	Lbs. Milk	Lbs. Fat	Fat Value
									$
Quebec	10	7,465	255	12	3,076	142	4,389	113	33
Ontario	4	10,685	329	6	3,920	122	6,765	207	62
P.E.I.	6	9,411	372	4	2,931	108	6,480	264	78
B.C.	9	10,345	513	8	4,690	227	5,655	286	85
Ontario.....	4	13,100	471	5	4,600	165	8,500	306	91

The "average" of a herd may be very misleading. Study the individuality of each cow.

This table illustrates four points:

(*a*) That although a herd may contain some good cows, as instanced in these yields of ten and thirteen thousand pounds of milk, still they are a long way from being of even production, for low yields of thirty-nine and even twenty-nine hundred pounds are found. Continuous selection is necessary before all are up to a good level when a perfectly just and fair average may be used.

(*b*) That these large differences are not confined to one factory or township, this matter of cow testing is no backwoods problem, but are found in all provinces, indicating the universal need of scales and samples.

(*c*) That weight of milk alone is not always a correct guide as to a cow's value; in this B. C. herd the difference in value of milk alone might be put at only $56.00, but taking fat at 30c. per pound, the real difference is $85.00.

(*d*) That there are plenty of excellent dairy cows in Canada, the result of some clarifying process, but no system of taking merely an average of general results will ever give real credit to these masterpieces of the 20th century.

Over and over again farmers have said that their judgment of some cows has been at fault; they thought this or that one a poor milker, but since keeping records they know them to be among the best. Cow testing carries conviction.

An entirely new angle of vision of life thus comes to the man who used to keep "just cows," not the casual glance of the tourist, but the earnest gaze of the student, and the real foresight of the true dairyman who sees big results looming ahead.

Then, cow testing makes for more contentment and better results in the whole herd. The careful feeder declines absolutely, when he keeps records, to waste expensive concentrates on the cow that does not economically utilize them; while the cow, on the contrary, that can turn the high priced feeds into abundant milk and fat at moderate cost is encouraged to eat to her capacity, and the entire herd fares better.

There is thus fostered a decided economy in feeding while at the same time there are quick returns from liberal rations to the right cow as intellectual lassitude is supplanted by careful study of feeds.

Again, cow testing satisfies the owner of the herd that he is on the right road towards more income and increased profits, either with fewer but better cows, or, as many of our men are doing, launching out into a larger business herd of heavy producers each selected on her merits. Then, as ideas are always sharpened up on the whetstone of this convention and valuable dairy knowledge

becomes widespread, men realize that their energy, their actual life, need not be dissipated as at present when maintaining a cows' orphan home, leaving pathetic foot prints of tragic failures, but that energy may be profitably used commanding large returns.

Does cow testing display any other sign boards? The records received at Ottawa show not only remarkable contrasts between provinces, counties, herds and individual cows in the same herd, as regards yield of milk, but also as regards the fat content of that milk. It is a common thing to find cows in the same herd, while giving about the same weight of milk and with other conditions equal, ranging all the way from 2.1 to 4.3 per cent. of fat. We also find a number of cows with very low tests, even four or five cows in a herd ranging from 2.2 to 2.6, giving only 20 pounds of fat in June. In other herds, four and even seven mature cows out of ten give under 3.0 per cent. milk, and again under 20 pounds of fat in August. Is that the type of cow we ought to keep? Nothing short of individual sampling reveals this.

What does this mean to a factory? Quality is worth something, just as porterhouse steak is better than hamburger. Every vat in the province of 5,000 pounds of milk testing 3.8 contains 30 pounds of fat more than a similar vat testing only 3.2; that is, the first is worth $9.00 more per day; the liquidation of this debt therefore falls unfairly on the better cows. Notice that this is comparing only 3.8 with 3.2 milk, what then of the 2.8 and the 2.6 milk? When such facts as these are disclosed, indicating that the total product of twenty-five average cows per day in June or September is entirely lost sight of in the pooling system in every 5,000 lb. vat, then we may conclude cow testing is certainly needed to give fair play.

Hence through sheer lack of testing we find dairymen keeping cows that produce milk at a feed cost in excess of what they know that the factory will pay per hundred; should there not be a little simple arithmetic to determine, beyond the shadow of a doubt that the purchase of milk is being made from each cow at a close figure? On the other hand, we find that testing discovers cows that yield milk at a feed cost of 56 cents per 100 pounds, and fat at 17 cents per pound, cows that make a clear profit of seventy dollars. Men owning such cows are not listless onlookers, but are sweeping on in the forefront of modern dairy practice, not contented with any old nondescript cow or herd, because satisfaction tolls the death knell of progress. But if the smouldering embers of discontent are fanned by the invigorating breeze of cow testing, the larger records, the cheaper milk must result.

Our records also show in their true colours some surprisingly good, high-testing heifers, and some very even herds, each cow varying in the test not over half of one per cent. of fat. Contrast this with two patrons of the same factory in Ontario where one milked only *five* cows of 18-karat fine quality to get seventeen hundred pounds of fat in the year, but the other patron plumbed the shallows of poor cows, and to obtain the same weight of fat had to milk *ten* cows.

Then when we see one man milking an ill-assorted bunch of 14 plebian cows to get 306 pounds of fat in July, while a neighbour gets 556 pounds from his 14 patricians, making $62.50 extra income in one month; while again in other localities individual grade cows are giving thirteen and seventeen thousand pounds of milk, earning $140 and $180 each, then we conclude it has paid such men to take up cow testing, to feed well, and, not looking for a cheap bargain-counter male, to invest thoughtfully in desirable pure bred dairy sires.

So many of the cows kept by factory patrons cannot possibly be classed as "dairy" cows, that some readjustment of ideas seems imperative. Without entering on any "dual purpose" discussion, the remark only needs to be made that here and there on our records are cows giving only 1,800, even less than 1,500 pounds of milk in 12 months, to show the prime importance of knowing the total yield of each cow; shirkers and quacks we cannot afford to-day, we need the workers and the professionals, the real dairy cows.

But then what of the land, our dairy farms? Are the acres working or idle, with a scanty half crop and not half the population, they might carry? Notice in this table a yield of only 123 pounds of milk per acre cultivated including pasture in a noted dairy section, as compared with 1,728 pounds per acre, actually fourteen times as much. Does the first farm return five per cent. interest per acre? Cow testing helps to increase the output of every acre, every herd, every factory, without necessarily increasing the number of cows kept, without increasing labour, in fact lessening it, besides proving that such labour is pleasure, for every duty may be yoked to a pastime.

CONTRASTS OF ONTARIO DAIRY FARMS.

Averages of Ontario Herds	Yield of Milk per acre	Feed cost of 100 lbs. Milk	Cash Receipts per Cow	Cost of Feed per Cow	Profit per Cow over Feed
		$ c.	$	$	$
Farmer's Union—					
Highest	1,176	88	84.74	54.25	42.95
Lowest	197	44	33.27	28.00	5.27
Listowel—					
Highest	1,312	1.08	115.75	57.95	41.67
Lowest	123	51	36.24	13.50	Loss 2.74
Woodstock—					
Highest	1,728	1.17	115.00	55.00	60.00
Lowest	316	48	29.55	27.50	Loss 4.45

Twice as much cost of feed per 100 lbs. milk.
Three times as much cash received per cow.
Eleven times as much profit per cow.
Fourteen times as much milk produced per acre.

This chart tabulates a few of the results gleaned in our Dairy Record Centres, illustrating some of the extraordinary differences found in modern dairying. It will be noticed:

(*a*) At all three places some milk costs twice as much for feed as neighbours of these men get it produced for. Averaging the product and feed of 5,200 cows in Ontario, the details of which were collected by our Recorders, we found 65 cents per 100 pounds to be the cost. Why then do we find, on their own statements, some men enjoying the society of cows that charge $1.08 and $1.17?

(*b*) In the actual cash receipts per cow we find, not only twice as much, but three times and almost four times.

(*c*) In the profit per cow above cost of feed we find not only eight but over eleven times as much: and one man at Woodstock making $64 more per cow than his neighbour who lost $4.45.

With milk at a reasonable price per quart, its great food value is apt to be overlooked, as also is its power to help reduce the cost of living, hence every farmer as both producer and consumer is interested in abundant production.

Then the excellent influence of this plan on the younger generation should be noticed. The school house sums find splendid practical application to the cows in the stable: one teacher wrote the office recently with great pride that some of his boys have commenced regular testing. This will help to rivet the young people on the farm, because a love for country and farm life must be developed as both herds and acres are more productive.

Instances might be multiplied of what testing has discovered, just two will illustrate: A cow that was disliked was sold for $55.00, but one month's records showed her new owner that she earned $30 in 30 days. Another cow put in with three others as the four poorest was auctioned at $28, she won a milking competition, and is not for sale now at $100.

As knowledge is thus obtained by records, scales are dropping from the eyes of many dairymen who are becoming unwilling to lose half of their profit either through inadvertently sacrificing good cows or through keeping parasites.

Cow testing thus is assisting materially in the development of far better, more intelligent dairymen, men with a purpose, not buffeted about by every new fad or fashion in cows, but aiming definitely at large profits, men not willing to waste time on cows that cannot pay, men who therefore add minutes to every hour of their lives.

Think what improvement it means in conditions generally as in district after district it is found that cow testing succeeds in obtaining from 20 to 80 pounds of fat more per cow after one year's selection, much larger returns at lower cost; not only has that additional income accrued to many dairymen, as much as $300 to the man who keeps 20 cows, but a larger volume of business flows through the factory, the merchant, the banker. This gives a new interest in life to many a man, to many a hardworking wife and budding family, for when his income from the same number of cows has increased seventy-five per cent. in three years, they can all think cheerfully of new plumbing, holiday trips or Easter bonnets.

Records also convince men that such things as cleanliness, light and ventilation in the stables pay well, and cow testing provides the money to make the necessary and reasonable sanitary improvements.

Proof is also furnished that we cannot afford to-day to stock an average farm with just average cows, we need to join the hundred club, the hundred bushels per acre, the hundred dollars income per cow. Better results every man wants, else why groom horses, or spray and prune fruit trees?

Please note there is no endeavour being made by the Government, when recommending cow testing, to foist any new or experimental scheme upon dairymen; you make no expensive excursion when stepping into this new track, for it has been hammered into a useful plan on the hard anvil of actual farm practice.

The plea is made for a fuller recognition of these among the many strong claims of cow testing; it may be hard to uproot old instincts, but our records indicate that we need to inject some creative impulses leading to new methods, to a renovation of many herds.

If they did not expect to get something out of it, there would not be, as there are, over 52,000 members of testing associations in the dairy sections of the globe to-day, recording nearly a million cows. The sturdy common sense

of the idea appeals to the intelligence of dairymen not only on this whole continent, but in Great Britain, northern Europe and the Antipodes. It means that as we take it up here in earnest we shall heap up an enviable reputation as a real dairy country, it means emancipation to the slaves at the heels of the poor cows, and it means in cold hard cash to the dairymen of Canada, from the present number of cows kept, an additional income of over forty-one millions of dollars.

Cow testing is decidedly well "worth while."

COMMON SENSE COW FEEDING.

J. H. Grisdale, Director Experimental Farms, Ottawa.

Those of us who are interested in cow feeding usually think we feed our cows in a common sense way. No doubt many of us do, since many of us get good results; but many people get poor results. What I mean by common sense in cow feeding is the feeding and growing of feeds that you can grow to the best advantage on your own farms. Many of us are growing the best feeds on our own farms, but we are not feeding our cows in the best way and so as to get the biggest returns possible from the amount of feed that we give our cows.

You must not infer from what I have said that I mean that we should confine ourselves in feeding our dairy cows to only such feeds as we grow on the farm; not at all. I believe it is quite permissible, even advisable, to supplement the home grown foods with such foods as we can make profitable, for instance bran, oilcake meal, gluten meal, cotton-seed meal and a few others that I need not mention. I believe that if we are going to make the best use of the foods we can grow on our farms, we must supplement them to a certain extent with foods that we purchase. The more of these we can use profitably, the greater will be the return from our cows. The more we can get our cows to eat, the greater will be our return. Before we start to consider what we should grow and how we can feed it, we ought to know the principal points in preparing the ration for a dairy cow. There is no doubt that many a farmer grows a lot of fodder and feeds it to his cows on the farm, and does so at a great disadvantage because he does not know the full value of the feeds and the methods necessary to follow in order to get the best returns from these feeds. That is the secret of the whole thing, knowing how to handle these feeds in order to get the most out of them in milk. I have no hesitation in saying that it is possible to take a given quantity of feed and feed it to a herd of milk cows in such a way as to get a very small profit over and above the cost of that feed, and you can take these very same feeds and feed them to your cows in such a way as to give you a handsome profit, yes, even 50 per cent. I want to indicate to you this afternoon what we have to consider in handling these feeds and in preparing rations for our cows in order to get the best returns.

In the first place, you will admit, I think, that a cow that is brimful—filled right up to the neck—with food is the cow that is comfortable, and the cow that is likely to make the best use of the food that is in her. Further, one of the important considerations is to give the cow all you can get into her; give her abundance. After that you have to consider the quality of the feed. Some farmers say the quality is the first thing, but I do not quite agree with that,

although I think the quality is important. Palatability is in my opinion the most important consideration. Palatability means pleasant to the taste, that which the cow likes. A cow will seldom fill herself up on wheat straw or wheat chaff, not because she knows it is not very digestible and does not contain very much nutritive matter, but because she does not like it and the taste does not appeal to her. You would not sit down to a meal of bran and enjoy it, but if you had a good porterhouse steak and a few fried potatoes, you could sit down and have a real good time. It is the same with the cows. If you give her something she does not like, she may of necessity eat a certain amount of it, but she does not consume enough of it to leave a profit for you: she will eat only enough to sustain life, and if you are after milk you may depend upon it that she will not sacrifice herself but will sacrifice you, and you will deserve it because you sacrificed the cow in the first place. Keep these three requisites in mind: abundance, palatability and nutrient qualities, and we will know what point to aim at in growing foods. I said we should grow the feeds which are best adapted to our farm; grow the feeds which we can produce most cheaply. I do not propose to discuss matters of production, although that is certainly a very important point for us in Eastern Ontario. I want to confine myself almost exclusively to rations. Getting the cow to eat a large amount of feed is the first object. If you can get a cow to eat wheat chaff or oat straw, she might possibly produce some milk, but in order to do that, you must give her something else, and the first consideration in getting her to eat enough is palatability.

How are you going to secure palatability? In my experience, covering some fifteen years of experimental feeding, the most important point to lend palatability to the feed is succulence; that is, give the cow something nice and juicy and she will eat of it freely. Some people give that word succulency, a different meaning. It has only one meaning. It does not mean nutritious or food value, it means juiciness; therefore anything that is juicy is succulent, and everything that is succulent is not necessarily very highly nutritious. Succulence is commonly used by men in speaking of feeding dairy cows and commonly used by all stockmen. It means simply juiciness and nothing more or less, and if we can get that in a ration it is a very big thing, and that ration will be very acceptable to the dairy cow. How can you get succulence in a ration that we are feeding. There is no difficulty in June. Last year we had difficulty in getting succulency in summer because we did not have much rain, and we had to feed our cows on dry feed. Grass and green clover and other green feeds are easy to get in summer but in winter it is a different matter. Fortunately the silo has solved that question for us in the eastern part of Ontario which is par excellence the dairy part of this Province, and I might say the dairy part of the Dominion, and therefore, every man in the eastern part of Ontario should have a silo. I admit it costs considerable money to build a silo and have everything as it should be; and if you don't feel that you can build one next year, you can grow some roots, and they are quite equal to ensilage. A thousand pounds of roots are worth a thousand pounds of ensilage to-day or to-morrow or any day, but it is not worth any more. Roots cost more to produce, and they are not any more valuable ton for ton, and they are a less certain crop than corn ensilage. There is another way that you can add succulency to your ration, and that is by cutting your straw and making a little pile and sprinkling it with water. If you add to the water 20 per cent. of feed molasses, you will have a succulent mixture; and if it has stood for a day or a little longer it is exceedingly palatable

to the cow and it will enable you to feed your cows some of the cheapest roughage that you may have on your farm. If you are feeding ensilage, you can mix in with that ensilage a considerable amount of oat straw or barley straw or inferior hay and the cows will eat it up. On every farm there is more or less rough feed that must be got rid of, but it is not always advisable to feed it to young stock. You can make the old cows eat it profitably if you will add to it palatability and change its flavor, and this can be done by mixing it with the ensilage or by sprinkling it with water and feed molasses. You may think of feed molasses as expensive, because we all think of it as costing from 30 to 50c. a gallon, but you can get feed molasses for around 20c., and we find that in comparison with other foods, it is worth from 20c. to 25c. a gallon. It is a profitable food, quite as profitable as the average feeds we find on the market to-day. If you use it as a material to increase the acceptability of the rough feed, it is worth one cannot say how much, because if you can get these cows to eat these cheap foods, their value will be enormously increased, and, therefore, your profits would be that much greater. Hence, the value of feed molasses can scarcely be overestimated when you have rather a lot of poor feed to be utilized to the best advantage by the dairy herd. Ensilage to give the best results should be mixed with 5 or 8 pounds of chaff or cut hay or straw or wheat chaff or barley or anything that will take off a little bit of the succulency and give slightly different flavors or modify the flavor. Not that the flavor of the ensilage is not acceptable to the cows, but the modifying of it seems to make it more satisfactory and they will eat it down with greater rapidity than when fed pure. Especially is this true if you have been compelled to cut your corn a little on the green side, and if it has a highly acid flavor. This happens frequently in this country, especially if the spring weather has not been satisfactory. Last year I saw thousands of acres of corn in the district of Ottawa that practically had not an ear on it. Such corn cannot possibly give ensilage of the highest quality. Unfortunately our farmers do not know how to grow corn to the best advantage. They have not all learned the advisability and importance and profitableness of draining their land so as to secure a high class crop of corn. I have been farming in the Ottawa Valley all my life, and I can remember thirty-five years that I have been growing corn every year and I have never seen a failure. If you plant your corn crop in a common sense way you will be sure to always have a crop of such feed as will give excellent returns in milk. It is the best crop in the whole list of crops that never makes a failure. In spite of last year being a bad year, we had about fifteen tons per acre.

After succulence and palatability in a ration is variety, that is, give the cow a little change. Two or three minutes ago I said if you had a porterhouse steak and some nice fried potatoes, you would be able to have a good time. But if you had that seven days a week, and fifty-two weeks in the year, it would get wearisome, and you would like to have a little pork, or ham and eggs, and it is the same way with the cow. If you give the cow the same old thing day after day without any change, she will get tired of it. She has never told you that, but I have observed it in my fifteen years of experimental work. You may ask me would I suggest feeding her corn ensilage to-day and roots to-morrow, and clover hay to-day and timothy to-morrow, and ground oats to-day and some oilcake

she likes at a certain time, you would do well to keep on giving it to her. If you have been feeding corn ensilage in the morning and ensilage at night and you suddenly turn over and feed her dry hay and roots in the morning, she will resent it. Change in the ration or method of feeding a dairy cow is not a good thing, but you must lend variety to the ration by including in the ration as many different feeds as possible. It is not necessary that every feed you give her should be the same. You might prepare a mixture of ensilage, oat straw and clover hay and meal and give it to her in the morning and give it to her at night and keep on doing that, but you may also give her ensilage and clover hay in the morning and roots and wheat straw at night, and you would also have variety, and the cow would be receiving quite a different ration. A cow is not a clock, but she has a good idea of what is coming at a certain time, and you can depend upon a cow rising to the situation and saying, "It is six o'clock and I ought to get some roots and oat straw," and if you don't give them to her she will resent it every time. Therefore, I say, give her a certain amount of ensilage at certain hours, a certain amount of clover hay, and a certain amount of roots and a certain amount of meal. It is also necessary in the meal ration that you have some variety in that. If you have a ton of bran and a ton of gluten and a ton of oat chaff, you can start and feed one and the other as soon as that is completed, but you can also give a mixture of gluten and bran at one time and oat chaff at another. There are a wonderful number of variations that you can make, but I have found it best if you will mix these three foods in such proportion as is best suited to the amount of milk your cow is giving, that is if your cows are fairly fresh and capable of giving a good supply of milk. Give them a fairly good percentage of gluten and a good proportion of oats, say half gluten and quarter oats and quarter bran, but if they are fairly advanced and not likely to respond so profitably to a heavy meal ration, change that around and give a third of each of the foods or even less of the gluten or expensive feeds.

I do not intend to discuss the composition of the rations, but merely want to impress upon you the considerations that go to persuade a cow to consume profitably these feeds which we can grow on our farms. One of the principal things is to add variety to the ration, or to so compile your ration that it includes variety. It is better, if you have ten different kinds of feed, to give the cows a little of them every day than to give one or two every day. Give her a little bit of each kind of feed every day and give it to her in a way that she will make the best use of it.

In making variety of rations, there are one or two points worth considering. Give her in the morning those feeds which are most acceptable to her; give her, when she is really hungry, the things she likes best, and she will make the best use of these. At night when she has a certain proportion of the day's food still in her stomach and is a little bit indifferent to the feed, if you give her the least acceptable foods she will pick through them during the night and make use of them. That does not sound like common sense, but it is common sense and it is the experience of not only myself but of many others. Supposing you have some rough straw that you want to get rid of. If you give that to the cow in the morning she does not like it, but if you give her that rough straw when she is outside around a stack she will eat more of it and make better use of it, and if you give it to her at night she will eat more or less of it, and what is more

being careful in the way we handle them. If you take a first class clover hay and stack it outside and let the rain and snow fall on it, it is not acceptable to the cattle. If you take first class clover hay or alfalfa and put it in the barn when it is a little bit on the wet side, it will get more or less mouldy and the cows do not like it; not only does it lose in feed value but it loses in flavor. We should so grow our feeds and so conserve them as to make them acceptable in both taste and aroma, and this can be done by cutting the hay just a little on the fresh side, just a little bit before you think it is ready. I know that the average farmer in the St. Lawrence Valley lets the hay stand too long before he cuts it. If you want the hay that is going to be the primest kind of food for a dairy cow or a horse or a sheep, cut it a few days before you think it is ready. I know what you think it should be like when it is ready, and I do not quite agree with you. I cut it when I think it is ready, and that is a few days before the average farmer thinks it is ready. Cut your clover before you see a dead head and cut your timothy when it is in blossom. Don't wait until you see a certain percentage of dead heads or until the bloom is all gone, cut it earlier. You will get just about as many tons of hay, not quite, and you will get very many more pounds of digestible matter. We think because a certain quantity of hay weighs 50 pounds that, therefore, we have 50 pounds of feed value. If that hay had been cut when it was only 45 pounds, we would have 10 or 15 pounds more food value because hay cut at a late stage has very much more fibre and the fibre is not digestible. Therefore, cut it when it is pretty fresh and you will have more digestible matter of a better quality, and it will be much more palatable and acceptable and the cow will eat more of it.

Give the cows those things they like best, and of which they will eat most, and they will make you money. Many farmers think the chief and most important object of their feeding operations is to feed as little as possible, and be as economical in dishing out the feed. That is the greatest mistake any farmer can make. What is the effect of this parsimony? The result is that our dairy cattle and all our cattle are getting smaller. What do we do when we want to improve our Ayrshires? Do we go to a Canadian farmer? No, we go to Scotland. Why? Because they have better Ayrshires than we have because they feed them. What do we do when we want good, big Shorthorns? We go to Scotland, as they have bigger and stronger cattle because they feed them. We are too careful. We should be generous, and our whole aim and object ought to be to get the animals to eat as much as possible; and that reminds me of a visit I paid once to a Scotch farmer. He had a great, big bull that weighed about 2,800 pounds, and he was pretty fat, and I said to him, "You have got this bull too fat; you must be overfeeding him." "Not a bit," he said, "he is only getting six bushels a day"—only 360 pounds of turnips a day! And it just struck me right there and then that if you could get that idea into our Canadian farmers' heads, we would have these big cattle right at home. If you can get it into the Canadian farmers' heads that they ought to feed their dairy cattle as much as they can feed them and give their heifers enough to give them big, roomy and well-developed frames, then we would have a better class of cattle in this country. In order to get our cattle to eat large quantities of food, we must cut it and store it in the proper way. Cut your grain a little on the green side if you want to feed the straw. I do not advise you to sell your grain; it is much more profitable to feed it, and if it is cut a little green, it is just as good for seed. Handle your corn to the best advantage. Do not attempt to grow so much that it will be earless, and

when you are putting it in the silo, cut it fine. Corn cut three-quarters inch long is not nearly as good as if it is cut only half an inch long; and it keeps better the finer it is cut. Avoid getting it frozen if possible, and in the grains you feed, try to get only well flavored feeds. Do not think you can buy cheap feeds that have a good flavor. If there is a musty smell to bran or meal, you can depend upon it it is not worth as much as good bran. The moment a cow dislikes anything, there is a falling off in the food value of that feed, therefore, I say, make a variety. Feed your cows as pleasant and as acceptable and as high a quality of feed as you possibly can. Grow the best feeds in the best way and care for them in the best way and handle them in the best way from the beginning to the end, and you will make anywhere from 20 to 50 per cent. more than you can make now.

If you can remember these four points in these few remarks I have made, I feel that I shall have done something to advance the interest of the farmer. First, get your cow to eat all she will, and give her all she will eat. Second, give her succulent, palatable feed. Third, give her a variety of feed; and fourth, give her feed with a pleasant smell and a good taste.

We have published a bulletin at the Experimental Farm on these points, and if any of you are interested in it, if you will drop us a card, we shall be pleased to send you a copy.

Mr. John Hyatt: How do you slack off a cow after you have been milking her?

Mr. Grisdale: They dry off mostly before we want them to. The only way is to reduce the feed in quality. Don't attempt to starve your cow, because that is weakening not only to herself but to her calf. You can change the quality of food and very materially decrease the milk flow, and then start to dry her. Some people say, just stop milking her, but that is not safe, but you can stop milking her partly. The cow that is hard to dry off is a valuable cow and you should not take any risk with her.

Q.—What kind of corn do you prefer?

A.—Leaming No. 7, Whitecap Yellow Dent and Longfellow in the Ottawa district. We have tried a great many others, but I do not know that there is any better than these. We have never had any difficulty with the Whitecap Yellow Dent; it has been satisfactory to us.

Q.—Have you ever fed brewers' grain dry?

A.—We have tried brewers' grains to a limited extent, and they are very good feed. The trouble is they vary greatly in quality, and I never found two lots alike. I would advise you to buy brewers' grains when they are cheap.

Q.—What do you think of brewers' grains when they are wet?

A.—We fed a few lots and got satisfactory results. Of course you have got to buy it fresh and not have it sour. We have found that a little bit of oats added to the meal ration is one of the best things you can give a cow, and if you put hot water on the meal, you will find they eat it with avidity.

Q.—Are turnips a better feed for milking cows than ensilage?

A.—They like the flavor.

Q.—Do they give better results than ensilage?

A.—If you feed enough, possibly they do. 100 pounds of ensilage has 25 pounds of dry matter, but only a certain proportion of the dry matter is digestible, probably one-half. With the turnips there is ten pounds of dry matters to 100 pounds, but it is all digestible. I have no objection to turnips or mangels if you feed them properly.

SENATOR DERBYSHIRE: They will make the butter stale.

MR. GRISDALE: I am not so sure about that; I have seen thousands of bushels fed and the milk sold well. It is possible to have a turnipy flavor in the butter if the turnips are not fed judiciously.

SENATOR DERBYSHIRE: If they would sweep and keep the stable clean, it would be all right, but you cannot get them to do it.

MR. GRISDALE: 50 per cent. of the farmers around Ottawa feed turnips but they feed them after milking and they clean out the stable, and by the time the milking time comes around again, the light gases or oils which are in the turnips have escaped and there is no serious result. I thank you very much for your kind attention. (Applause.)

ADDRESS OF WELCOME.

The Mayor of Cornwall delivered the following address: The very pleasant duty devolves upon me as Mayor of the Town of Cornwall, to extend to the Eastern Dairymen's Association of Ontario the welcome of our town. You are practical men and you are here on an important mission, and I trust that the result of your deliberations will be the advancement of the very important industry which you represent. I believe the cheese board of Cornwall has a reputation for fair dealing, and it has done much to encourage the dairy industry in Eastern Ontario. I know that you are here to obtain information and for the purpose of exchanging ideas, and I will not detain you, but will close by hoping that your visit to Cornwall will be an enjoyable one and that a great deal of good will result from it.

ADDRESS.

DR. ALGUIRE, M.P., CORNWALL.

Dr. Alguire stated that a meeting of such an association caused unrest among the consumers. The cows were producing more yet the price was soaring. He paid a tribute to agriculture in calling it the greatest of all industries. His concluding sentence was, "I hope that the farmers' sons of Ontario will realize that this is a profession that they are in, and it is not a common, every-day sort of thing, but is one of the noblest and independent professions that there is in the whole range of all professions, because when it comes to the last analysis, the doctor and the lawyer and the minister and the blacksmith and everybody else, is working for one fellow, and that is the farmer.

SENATOR DERBYSHIRE, who acted as chairman, expressed appreciation of the hearty reception extended, and referred in glowing terms to the magnitude and importance of the dairy industry. "We are trying to get the farmers of this country to keep better cows and to get a larger quantity and better quality of milk, and to encourage the makers in the factories to make a better quality of cheese and get a better price."

PROF. ROBT. HARCOURT of the Ontario Agricultural College, Guelph, gave an address on "Food Value of Milk and its Products." This address was of such importance and wide application that the Minister of Agriculture decided to have it published as Bulletin No. 221. Those wishing to secure a copy may get the same by applying to the Department of Agriculture, Toronto.

JUDGES' REPORT.

PRESENTED BY G. H. BARR, CHIEF OF THE DAIRY DIVISION, OTTAWA.

As judges we have not made out any formal report, and what I have to say is from my own observation. I first wish to commend the Directors of the Eastern Dairymen's Association for their wisdom in holding a dairy exhibition at this convention. I have felt for a great many years that it was one of the things that was lacking in the east. I also want to commend them on the very liberal prize list which they offered the exhibitors. It is well worth any cheese or butter makers' while to send cheese or butter to this exhibition. I am sure it must be a source of satisfaction to the directors to see the excellent exhibit that the makers have made; because for the first exhibition held by the Association, you have a large number of exhibits. There are 190 exhibits of cheese, but only 12 of butter. I want to express my appreciation of the method of judging that was adopted by the directors. The directors showed a great deal of wisdom in appointing three judges and having the judges score the cheese independently, and then average the score of the three judges; that cuts out any dissatisfaction that might be felt in any one judge. I would not undertake to judge that lot of cheese and butter alone. When acting with two other men and when you know that you did your best, then you feel a certain satisfaction.

CHEESE: I must congratulate the makers on the excellent exhibit they have made. It shows that they have taken a lively interest in the exhibition, and I want to congratulate them on the excellent quality of the cheese. I have been agreeably surprised at the excellent quality of the cheese. I have had considerable experience in judging, and I must say that in going through this lot of cheese that I had more trouble in distinguishing any difference in the flavor of the different cheese than I have ever had at any exhibit where I have been a judge before. I found a more uniform flavor in this exhibit of cheese than I have ever found at any other. The general run of the cheese are of good flavor. There is not one cheese that stands out clear and distinct above the others, and that is something that you will find at nearly every exhibition. When I got through judging that batch of cheese I could not go back to any one cheese and say, "There is the best cheese in the room."

I do not think I would be doing my part if I did not criticize a little; because I think every cheese-maker who exhibited here will want to do a little better next year. We found a few poor cheese. We did not find any that were positively bad but we found five or six that were poor in flavor. We found the turnipy flavor and the cow flavor, but we found very few with these flavors. I was agreeably surprised that I did not find more. There is one thing that the cheese makers might have done, and that is to give their cheese a little better finish. Of course this was the first exhibit and there were some very nicely finished cheese, but there is room for improvement. There are many cheese that were not finished in a fancy way and some of them upon which no extra care had been expended. It means a lot to the exhibit to have a room full of nice, smooth, well-finished cheese and that would have improved this exhibit very much. It can be done by giving a little more time to the work. One of the worst defects I saw in the exhibit was a number of loose caps, the result being that a great many of the cheese are cracked on the ends. That shows carelessness on the part of the maker, and that he did not have the cheese well pressed before bandaging. The cap clothes should be put

on with warm water in the late fall. The cap clothes were not stuck on tight enough or they would not have come off. We did not find any real hard cheese in the whole lot. There were some that showed a little lack of cooking and a very few that showed a little overcooking.

BUTTER: The exhibit of butter was small and the flavor, for show butter, was just ordinary. One lot was very good, but the general run of it lacked that nice aroma that you expect to find on first-class butter. Taking the exhibit all round, it was a very good one for October and November butter. A few were motley, but outside of that the exhibit was fair.

I think when you see the scores you will come to the conclusion that it was very close work. Personally I would have liked to score some of the cheese down a quarter of a point, but the secretary objected to our using quarter points, and for that reason many of the cheese are scored lower than they would be otherwise. The prizes were awarded as follows:

SEPTEMBER WHITE CHEESE (45 Cheese exhibited).

Tie for 1st, 2nd and 3rd Prizes. 97⅔%	E. E. Diamond, Cooper, Ont.
	Norman H. Purdy, Belleville, Ont.
	Jas. W. Johnston, Campbellford, Ont.
4th Prize. 97½%	M. O. Tricky, Williamsburg, Ont.
Tie for 5th and 6th Prizes. 97⅓%	Jno. P. O'Shea, Central P.O., Wolfe Island.
	Benson Avery, Kinburn, Ont.
Tie for 7th Prize. 97 1-6%	H. S. Channel, Demorestville, Ont.
	Jas. D. Henderson, Smithfield, Ont.
	W. A. Anderson, Peterboro, Ont.
	Jno. J. Kyle, Leonard, Ont.
	Elmer Baker, Algonquin, Ont.

SEPTEMBER COLORED CHEESE (37 Cheese exhibited).

1st Prize. 97⅓%	J. W. Fretwell, Oxford Mills, Ont.
2nd Prize. 97%	Peter Guindon, Vankleek Hill, Ont.
Tie for 3rd, 4th and 5th Prizes. 96 5-6%	Jas. Irvine, Cornwall, Ont.
	W. D. Clapper, Campbellford, Ont.
	M. O. Tricky, Williamsburg, Ont.
Tie for 6th and 7th Prizes. 96⅔%	G. W. Owens, Forfar, Ont.
	Thos. Isbister, Lansdowne, Ont.
	E. E. Chaffee, Summerstown, Ont.
	H. S. Channell, Demorestville, Ont.

OCTOBER WHITE CHEESE (41 Cheese exhibited).

1st Prize. 97⅔%	Benson Avery, Kinburn, Ont.
Tie for 2nd, 3rd, 4th and 5th Prizes. 97½%	Geo. H. Rose, Stirling, Ont.
	Geo. W. Chambers, Stirling, Ont.
	J. W. Fretwell, Oxford Mills, Ont.
	W. C. Taylor, Charleston Lake, Ont.
6th Prize. 97⅓%	Jas. B. Finkess, Osnabruck Centre, Ont.
Tie for 7th Prize. 97 1-6%	Peter Guidon, Vankleek Hill, Ont.
	H. S. Channel, Demorestville, Ont.

OCTOBER COLORED CHEESE (42 Cheese exhibited).

1st Prize. 97⅔%	Howard Holmes, Peterboro, Ont.
2nd Prize. 97⅓%	Chas. A. Wilkins, Mille Roche, Ont.
Tie for 3rd and 4th Prizes. 97%	Ralph Alguire, Northfield Station, Ont.
	W. J. Taylor, Charleston Lake.
Tie for 5th, 6th and 7th Prizes. 96 5-6%	J. J. Hogan, Peterboro, Ont.
	H. S. Channell, Demorestville, Ont.
	Roblin Dulmage, Picton, Ont.

TWO CANADIAN FLAT CHEESE (24 Cheese exhibited).

1st Prize. 98% ..... Gordon Hough, Perth, Ont.
Tie for 2nd, 3rd and 4th Prizes. 97½%. Jno. Snetsinger, St. Andrew's, Ont.
N. Thackaberry, New Dublin, Ont.
R. Maxwell Haley, Lanark, Ont.

THREE CANADIAN STILTON CHEESE (9 Cheese exhibited).

7st Prize. 96½% ..... Wm. Eager, Morrisburg, Ont.
Tie for 2nd, 3rd and 4th Prizes. 95½%.. C. A. Publow, Picton, Ont.
A. F. Gerow, Napanee, Ont.
Jno. Snetsinger, St. Andrew's, Ont.
Benson Avery, Kinburn, Ont.

56-LB. BOX OCTOBER BUTTER (4 Butter exhibited).

1st Prize. 95⅜% ..... D. A. Roe, Maxville, Ont.
2nd Prize. 94⅜% ..... F. D. Booth, Fenelon Falls, Ont.
3rd Prize. 94¼% ..... Jno. Anderson, Renfrew, Ont.
4th Prize. 93¼% ..... E. E. Chaffee, Summerstown, Ont.

TWENTY-FOUR 1 LB. PRINTS OCTOBER BUTTER (4 Butter exhibited).

1st Prize. 95⅜% ..... F. D. Booth, Fenelon Falls, Ont.
2nd Prize. 94½% ..... Jno. Anderson, Renfrew, Ont.
3rd Prize. 93¾% ..... E. E. Chaffee, Summerstown, Ont.
4th Prize. 93¼% ..... D. A. Roe, Maxville, Ont.

SPECIAL PRIZES.

Lovell & Christmas, Montreal: $25 for highest score in September White Cheese.—Divided between E. E. Diamond, Cooper, Ont.; Norman H. Purdy, Belleville, Ont.; Jas. W. Johnston, Campbellford, Ont.

Lovell & Christmas, Montreal: $25 for highest score in September Colored Cheese.—J. W. Fretwell, Oxford Mills, Ont.

A. A. Ayer & Co., Montreal: $25 for highest score October White Cheese.—Benson Avery, Kinburn, Ont.

A. A. Ayer & Co., Montreal: $25 for highest score October Colored Cheese.—Howard Holmes, Peterboro, Ont.

Canadian Salt Co., Windsor: $15 for highest score Two Canadian Flat Cheese.—Gordon Hough, Perth, Ont.

Canadian Salt Co., Windsor; $15 for highest score Three Canadian Stilton Cheese.—Wm. Eager, Morrisburg, Ont.

Verrat Stewart & Co., Montreal: $25 to instructor receiving most points in Colored or White Cheese manufactured in his district.—J. Buro.

Le Laval Cream Separator Co., Peterboro: Silver Cup, valued at $20, to maker securing the highest score in Creaming Butter manufactured from cream gathered cream.—D. A. Booth, Fenelon Falls, Ont.

The Canadian Salt Co., Windsor: $20, 1st prize, Twenty 1 lb. Prints Creamery Butter made in November. 97%.—R. M. Haley, Perth, Ont.

Hodge & Co.: $5, 2nd prize, Twenty 1 lb. Prints Creamery Butter made in November. 96½%.—D. A. Roe, Maxville, Ont.

Judges—E. Dunning, L. A. Zufelt, Geo. H. Barr.

MR. L. A. ZUFELT: I could not let this opportunity pass without making some remarks on the quality of the cheese shown at the exhibit. I can heartily support the remarks Mr. Barr has made. I might add that the uniformity of the make, not only in the flavor but in the general make and character of the cheese. was of such a nature that we found it a difficult matter to distinguish any great variation. In fact many of the cheese that stood side by side on the benches appeared as though they had been made in the same factory and in the same vat and by the same maker. I must congratulate Mr. Publow and his instructors on the excellent work that they must have been doing in this eastern section. There is no question that many of these cheese were made at different factories. ranging from the far

west to the far east of this section, but are of such a character that they might be all classed as one grade of cheese. I am sure those in charge of the work of instruction can feel proud of their work. I feel that the cheese makers should be congratulated for sending such an excellent exhibit of cheese to this meeting. The chief difficulty, as Mr. Barr has said, was in the finish of the cheese.

BUTTER MAKING AND ITS DEVELOPMENT IN EASTERN ONTARIO.

L. A. Zufelt, Superintendent, Kingston Dairy School.

The butter industry has seen many changes which have had far reaching results on the entire dairy industry of the Province, and we are again entering into one of these periodical changes which bids fair to rival in importance any of those experienced in previous years. Usually we have had timely warning of the approaching change, but in the present case events have crowded each other so rapidly that the majority of us have been more or less unprepared, and unless the situation is carefully handled we may not reap the advantage we otherwise should.

It is not my intention to canvass the whole situation but to touch only on such parts as I feel affects us most vitally, and possibly point out a line of action which will have the most beneficial results.

The demand of our local butter markets has increased to such an extent that we no longer have butter to export, but on the other hand our imports of this commodity are increasing rapidly year by year to supply this increased demand. It is doubtful if we fully realize just what effect this importation of foreign butter is going to have on our local producers, and it is well to look into this phase of the situation more closely. So long as we were exporters, only a small percentage of our output of butter came into competition with foreign makes, now, however, our entire production will be placed side by side with these foreign imports, and I am afraid will suffer by comparison, and our success in holding our own local market will depend altogether on our ability to not only make as good, but a superior quality. Unfortunately in the past we have not always held the most enviable position in regard to the quality of our butter. This was partially, if not altogether, overcome when our whole milk creameries entered the field, but since the gradual extinction of these we are again face to face with the proposition of winning out, or at least holding our own against most aggressive foes, with the added handicap of an inferior raw material: with this distinction, however, that where as formerly we were competitors in a foreign market with our best production we will now be fighting for possession of our own local markets where all our grades, good, bad and indifferent, will be in constant competition with the best of the foreign makes. It is quite evident that much of our butter will not command the highest price and will gradually grow in disfavor unless we put forth every effort to maintain a standard, if not better, at least equal to the best of the foreign imports.

We all must recognize that the quality of the raw material largely influences the quality of the finished product and it is doubtful if the general average quality of the cream as delivered at our creameries has increased much during the past few years. Now, I do not wish to be misunderstood in regard to this point, nor

remedy. I believe if we just stop long enough to examine carefully the conditions prevailing at the present time, it will not take us long to come to the conclusion that the trouble is largely an economic one. I believe and I feel sure every creamery-man will agree with me that the farmers supplying cream to the creameries are handling their cream more intelligently and taking better care of it to-day than they did some years ago. I also believe that our butter-makers have more knowledge and are using more skill in the manufacture of the butter than they did formerly, yet, we are faced with the fact that the quality is not keeping pace with these improved conditions. Now there must be a "missing link" somewhere in this chain, and I think we need not go very far before finding it. When cream gathering creameries were first being operated the cream was expected to be delivered at least three times per week. As we all know, costs of labor, material, etc., have increased rapidly and our creamery managers in unison with all other manufacturers, in endeavoring to lessen as much as possible the cost of manufacture, came to the conclusion that this cost could be materially lowered by hauling the cream less frequently, and we now find that whereas the cream was hauled three times a week a few years ago it is now being hauled only twice and in many cases only once per week. There can be no doubt that the good accomplished by the educational work of our instructors towards a better cream supply has been largely nullified by this practice of lessening the number of deliveries per week to the creamery, and instead of this educational work having a beneficial effect on the quality of the butter, it has been made use of to lessen somewhat the cost of haulage and the cream as a consequence has not been delivered at the creamery in any better condition than formerly. In short it is a clear case of a sacrifice of quality for a doubtful saving in cost of manufacture. I feel that I cannot too strongly condemn this practise, which is perhaps the most prevalent one in all lines of dairy production. We are too prone to effect a small visible saving at the expense of a much larger loss in quality. Perhaps, after all, the chief blame for this practice does not lie with the producer but with the conditions with which they have to contend. Let us examine closely some of these conditions and what do we find? Our efforts as educators have been largely directed towards raising the general average quality of our milk and cream supply, but what reward have we to offer the individual producer when he has succeeded in furnishing a high grade raw material. Does he as an individual receive any more for it than his neighbor who supplies an inferior article? It is true he helps raise the general average quality and indirectly shares this benefit with his neighbors, but does he receive the full reward for his individual labor? This is evidently the crux of the whole question. In proof I might point to the rapid strides made by some of our sister Provinces in raising the standard of quality of their butter from the lowest to the very highest in the Dominion by the simple expedient of a system of cream grading at the creameries. This system, I am informed, is to be further extended by applying it to the butter which in future will be graded as well, and sold strictly on its merits. The advantage of this method is that the individual reaps the full benefit of his labor or is made to suffer for his carelessness. The careless producer or manufacturer can no longer "pool" his interests with his more progressive neighbor, nor shift his personal responsibilities to the shoulders of others. It is quite evident that if Ontario wishes to occupy the position which should rightly be

in the industry the privilege of profiting by their own individual labor. Our defect is not in a lack of education or of knowing how to produce a high grade product, but rather a system which offers no reward to the individual for individual merit. On account of the brisk demand at the present for butter and cream there is a tendency among many of our cheese factory patrons to change their allegiance to the creamery industry, and to these I would utter a word of caution. There is always a tendency when new fields or channels of trade open up to rush in headlong without any preparation only to find that instead of making a success the venture often turns out a failure. There is room for only a few new creameries in Eastern Ontario and these will be situated in the larger towns having good railway connection, and where a local market may be obtained for the by-products. The bulk of the creamery butter of the near future will be manufactured in a few large centrally located creameries, equipped for the manufacture of butter, and ice cream, as well as catering to the sweet cream trade. The small creamery, if it exists at all, will be found in the outlying districts and where the large creamery cannot enter into competition. Just what effect this will have on the industry it is hard to say, but it is evident there are elements of danger to be encountered in this new situation and I would caution those about to enter this field to go slowly.

Another difficulty to be overcome is the lack of sufficient skilled butter-makers to take charge of this rapidly expanding industry, and for a few years we may expect more or less disappointing results until a sufficient number of our young men fit themselves for these responsible positions. Butter-making looks easy to those on the outside, but the experienced man knows there are many pitfalls and difficulties in the way which require experience as well as a thorough grounding in the science of butter-making to overcome.

In recapitulation I would emphasize the following points as an aid in improving the quality of our butter:

First, employ as butter-makers only those who have the necessary qualifications.

Second, introduce a system of grading cream at the creameries whereby the individual producer will receive a just reward for his industry.

Third, to supplement the forgoing by some method that will insure the butter being sold on its merits.

DAIRY PRODUCTION IN CANADA.

J. A. Ruddick, Dairy Commissioner for the Dominion, gave a valuable address on "Dairy Production in Canada." A summary of this address will be found in the records of the Western Association.

ADDRESS.

Andrew Broder, M.P., Morrisburg.

We listened with a great deal of interest to the papers that have been read. They are of interest not only to you but to the country at large, because the future welfare of this country is largely bound up in the dairy industry. We talk about the dairy cow; but we have got to breed the man as well as the cow. If you have

not the man to attend to the cow, the cow will not be up to the mark, and unless that man has some energy and intelligence and is willing to put it in motion, the cow won't amount to much.

We must get down to the first principles and produce more. There is a great deal of talk about the high cost of living, and the House of Commons may pass resolutions, but they can't make the old hen lay one egg more nor can they add one pound to the weight of a steer; it is the men who feed them who can do that, and that is what you have to do.

I am proud to know that those who have been addressing you are our own Canadian boys. Is not that an inspiration to you men who are raising families? I want you to realize what this great country means. Canadians should be standing in the gateways of the world holding out food to the people. We should reach out beyond the confines of our own people, and it depends upon the people on the soil whether that will be done or not. The problem before us to-day is to get the people on the land. Mr. Ruddick has shown us the possibilities of one branch of farming industry, and the man or boy who goes into the corn field and only sees the weeds and the corn is living far short of his mission if he cannot see there, nature unfolding her designs to feed the world. There is greater room for diversified intelligence in farming than anywhere else in the world.

Before I sit down I want to say that we should give our boys and girls and wives some earning power on the farm. We should not give a boy a calf in the spring and sell it in the fall and put the money in our own pockets. Why should not the mother and daughter have the hens? Why should the mother have to steal ten pounds of butter if she wants a ribbon on her dress? We should give the mother and the girl some interest in the fowl and let them have an industry of their own and let them add to the capital of the farm. We should give them a chance to have an earning power and to do something for the farm and for the country, and make them realize that they are a factor in this work.

Down south they used to raise 17 bushels of corn to the acre, but now under scientific instruction they are raising 100 bushels. We have great possibilities in this country, and we must get the boy interested in the land and make him realize the great possibilities there are in the diversified agriculture of this Canada of ours. I thank you for your attention.

REPORT OF DAIRY INSTRUCTION.

G. G. Publow, Chief Instructor for Eastern Ontario, Kingston.

I take pleasure in submitting my eleventh annual report as Chief Dairy Instructor and Sanitary Inspector for the season of 1913.

The work of instruction was conducted along similar lines to that of last season. 23 instructors were engaged in the work of instruction and inspection. This is one less than last season, Mr. McDonnell having resigned to accept a position with the Dominion Government, and as the number of factories had decreased during the last few years we found that by re-arranging the groups we were able to dispense with the services of one man.

Before starting their season's work the instructors were given a short course of instruction at the Kingston Dairy School.

Rather than weary you with a detailed statement of the work done in each syndicate I have prepared a tabulated statement which will be found in the printed report of this meeting.

Cheese Report.

There were 882 cheese factories in operation during the past season, just 13 less than a year ago. Before the season closed, however, 20 of these shut down on account of their patrons shipping milk or cream to the cities, thereby rendering factory operations both unprofitable and impracticable. One factory was compelled to close its doors on account of its being in an unsanitary condition and 12 others were burned. Four of these were re-built and seven new ones were added to the list.

Syndicate.	No. of factories in group.	No. of full day visits.	No. of call visits.	No. of patrons in group.	No. of patrons visited.	No. of samples tested for adulterations.	No. of samples deteriorated.	No. of samples tested by fermentation test.	No. of factories pasteurizing the whey	No. of factories making whey butter.
Almonte	40	60	198	1,564	172	1,760	2	70	0	1
Alexandria	37	44	207	1,015	109	961	6	108	0	0
Brockville East	46	64	247	1,433	79	980	0	287	14	7
Brockville West	41	51	173	1,015	77	1,080	3	232	13	14
Brockville North	44	64	210	1,061	42	1,095	1	68	0	21
Belleville	33	27	347	1,610	136	2,500	1	94	2	0
Cornwall	39	60	216	1,261	85	1,095	4	554	16	0
Campbellford	36	58	220	1,260	42	2,470	2	0	2	0
Finch	39	34	237	1,123	6	980	0	31	4	4
Kemptville	40	86	246	1,365	52	1,319	1	25	1	3
Kingston	38	80	168	1,152	64	1,629	1	50	1	4
Lindsay	29	47	131	1,358	50	1,105	2	17	6	5
Madoc	32	103	143	987	82	110	5	25	1	0
Morrisburg	46	63	218	1,384	78	1,476	0	156	2	18
Ottawa	40	49	221	989	43	969	3	29	1	4
Ottawa East	41	52	284	1,284	23	526	0	74	0	2
Ottawa West	36	39	191	1,430	157	796	1	374	7	4
Perth	36	54	153	1,258	110	600	1	70	3	5
Peterboro	24	46	208	832	237	317	1	48	0	4
Picton	36	52	266	2,600	239	1,700	7	80	13	17
Plantaganet	44	72	217	1,248	32	969	5	48	0	0
Napanee	49	45	201	2,610	97	4,157	5	30	2	5
Vankleek Hill	35	52	270	1,021	84	989	2	55	0	0
Outside Factories	1	0	4	25	0	0	0	0	0	0
	882	1,305	4,976	30,885	2,096	29,586	53	2,525	88	118

105 factories expended the sum of $77,633 in improving their buildings and equipment. Six new cool-curing rooms were constructed bringing the total number in Eastern Ontario up to 60 or in other words only about 7 per cent. of the total number of factories are equipped with this exceedingly important feature of factory construction.

It is interesting to note that during the six months season extending from May 1st to Nov. 1st, a total of 921,743,762 lbs. of milk was delivered to these 882 factories. This was contributed by 30,885 patrons from 281,489 cows. Analyzing these figures we find that each cow yielded approximately 3.274 lbs. or an average of 18.2 lbs. per day.

From this milk 86,196,383 lbs. of cheese were manufactured or approximately 1,014,000 boxes, the average amount of milk required to make a pound of cheese being 10.77 lbs. Going back to my figures of a year ago I find that this year our total make up to November 1st, is a trifle over 100,000 boxes short, and for the whole season some 135,000 boxes short. This shortage may be attributed almost entirely to two causes, namely an unusually dry summer and a greater production of milk and cream for other purposes. The details of the climatic conditions are well known, and need no further comment, but it is interesting to note that over 1,600 of those who sent milk to cheese factories in 1912 have either shipped milk or cream to the cities or have patronized butter factories in 1913. Then again, a very considerable amount of milk and cream was shipped to the United States

No. of factories shipping cream to U.S.	Average per cent. of fat in milk.	Average per cent. of fat in whey.	Lbs. of milk delivered from May 1st to November 1st.	Lbs. of cheese made from May 1st to November 1st	Average lbs. of milk to make a pound of cheese.	No. of factories with cool-curing rooms.	No. of factories which made improvements in buildings or plant.	Estimated expenditure, including new buildings.	No. of factories kept in a sanitary condition.	No. of factories paying by test.	No. of new silos built.
0	3 61	.21	44,625,222	4,058,909	10.90	0	32	4,500	40	2	32
0	3.7	.20	30,117,167	2,878,987	10.46	0	6	2,500	34	5	0
1	3.6	.22	46,926,202	4,277,201	10.90	2	18	5,347	46	2	26
1	3.6	.22	51,886,821	4,718,752	10.99	3	27	6,250	34	3	20
0	3.5	.22	52,316,250	4,746,023	11.02	2	15	3,750	39	0	7
0	3.58	.23	33,996,223	4,239,009	10.37	7	4	5,500	33	0	26
3	3.83	.21	41,762,786	3,969,077	10.54	1	20	2,460	30	11	21
0	3.55	.25	37,539,908	3,328,375	11.02	3	22	5,055	36	0	18
6	3.54	.21	38,877,436	3,560,204	10.92	1	20	4,500	33	4	42
0	3.58	.21	43,978,554	4,013,245	10.95	1	20	3,600	38	6	65
1	3.59	.25	36,941,869	3,388,571	10.90	0	4	290	30	2	50
0	3.57	.21	25,859,950	2,339,595	11.05	10	25	1,500	29	10	29
0	3.60	.20	36,414,628	3,331,428	10.96	2	1	425	29	0	10
9	3.47	.23	57,016,080	5,409,500	10.54	1	20	2,000	25	4	32
0	3.62	.24	31,838,533	2,967,187	10.73	1	12	1,500	30	7	29
1	3.60	.22	35,227,884	3,363,451	10,47	0	14	4,776	37	6	20
0	3.49	.20	31,990,080	2,887,095	11.08	6	36	4,970	35	6	37
0	3.58	.21	32,078,476	2,957,203	10.80	0	16	4,340	30	0	28
0	3.54	.22	14,576,039	1,332,718	10.93	2	21	985	21	5	22
0	3.60	.23	61,918,246	5,678,574	10,90	12	25	6,200	33	0	40
0	3.80	.22	25,237,375	2,470,869	10.21	0	21	900	39	0	5
2	3.69	.20	70,776,367	6,561,629	10.77	5	10	3,285	30	1	20
0	3.70	.23	39.421,666	3,672,781	10.73	1	16	3,000	45	5	10
0	3.60	0	420,000	40,000	10.50	0	0	0	1	0	0
24	3.60	.....	921,743,762	86,190,383	10.77	60	405	77,633	777	79	589

during the latter part of the season when the tariff changes were made, over 40 factories discontinuing the manufacture of cheese entirely to supply the demands of the new market. Twenty-four factories shipped cream to the United States during the whole season. Nine of these made casein as a by-product and two made skimmed milk cheese for a part of the season. In connection with the manufacture of cheese 118 factories made whey butter, the total amount being approximately 375,000 lbs., about 10,000 lbs. less than was manufactured by 121 factories during the previous year. Eighty eight factories or only 10 per cent. of the total number in operation, pasteurized the whey. I regret that this number is so small and that practically no improvement has been made in this respect over the previous season, as I consider it one of the most important features of successful factory manage-

ment in the interest of both patrons, makers and factorymen. We have made every effort of an educational nature to have all factories pasteurize the whey before returning it to the patrons, but the patrons have not yet appreciated the advantages of pasteurization sufficiently to make them willing to pay for the small additional cost.

During the season the instructors made a total of 1,305 full day visits to the factories and 4,976 call visits. They visited 2,096 patrons and tested 29,585 samples of milk, 53 of which showed to have been adulterated. It is gratifying to note that the percentage of adulteration shows a falling off of over 27 per cent. from the year 1912. Thirty-eight of these were prosecuted, two cases being dismissed and 36 being from $5 to $50.00 each, amounting in all to $917.

Seventy-nine factories used the butter-fat basis in paying for the milk, the average per cent. of fat being 3.6.

A very encouraging feature of this season's report is the fact that a total of 589 new silos were built, showing that the patrons are rapidly realizing both the advantages and necessity of this element in the profitable production of milk. The increasing desire of factory patrons to gain a greater knowledge of the conditions upon which the success of their work depends is very evident by the marked attendance at the district dairy meetings and the 140 factory meetings which were addressed by one or more of the instructors. Besides addressing most of the district dairy meetings and our special cheese-makers meetings, most of my time was taken up during the summer with the instructors in going amongst the different factories, and at several points conferences were held of groups of the instructors at some factory where the day was spent in manufacturing the cheese. Several makers usually attended these practical demonstrations as well, and results were quite noticeable in their work afterwards.

All of these educational efforts are undoubtedly having their influence on the quality of the cheese and each year we find at least some of the defects disappearing, but each season we find some peculiarity or change in weather conditions that produce trouble before the makers realize the effect of such changes. It is the supreme object of our work to prevent defects in the cheese rather than to wait for defects to occur and then suggest a remedy. However, defects occasionally do occur, and I find that by visiting the warehouses in Montreal occasionally and by keeping in touch with the buyers that most of the defects can be detected before they have become of a serious nature. This year nature favored us with ideal weather conditions for the months of April, May and June and during that time the general quality of the cheese was exceedingly satisfactory. However, when the dry hot weather came its effects were soon noticeable, the most common complaint being for openness. Gradually the old defects of over acid and bad flavors have been eliminated until now they are now quite uncommon and openness remains as the principal trouble maker. This in some cases is due to insufficient pressure of the cheese, but in most instances, apart from the condition of the milk, is due to improper firming and maturing of the curd, many makers, especially in small factories, not having sufficient help to enable them to do the mechanical work as it should be done. A number of complaints have been made regarding soft rinds and unclean surfaces. These are due in the first place to boxing and shipping the cheese before they have dried off, a practice which should be immediately stopped and in the second place to carelessness on the part of the makers in not turning the cheese regularly on the curing room shelves or in keeping the range boards dry and clean. As a matter of fact when we analyze the cause of nearly all defects, in both

the milk supply and in the cheese, we find that it is not so much the lack of knowledge on the part of patrons and makers but to carelessness or indifference in the failure to put this knowledge into use, and generally speaking, if both patrons and makers would do as well as they know how to do and put into practice the methods they have been taught we would find that most of the defects would soon be entirely eliminated.

The work of instruction and inspection in the butter factories was last season almost entirely under the management of Mr. Singleton, and with the exception of one or two outlying districts and the 38 combination factories that made butter in the spring and fall only and which were looked after by the different instructors, were under his personal supervision. As he has prepared the report of the work done along this line I present it to you in its original form as follows:

Creamery Report.

The number of creameries visited by me in 1913 was increased from 1912, and during the past season I visited all creameries in Eastern Ontario except the Prescott and Picton creameries.

In all I had 31 creameries and one skimming station in my group, and I made 41 full day visits and 86 call visits during the season and visited 50 patrons.

The output of butter in 1913 has been greater in most creameries than in 1912, and this increase combined with the make of the new creameries in operation in 1913 will make an increase of about 380,000 lbs. of butter over 1912. Besides this increase considerably more cream has been shipped to Toronto during the past season than in 1912 and the make of the Toronto creameries does not show in the total make of Eastern Ontario.

The average percentage of overrun for the season was 19.65 per cent., and the average selling price was about 25 6-10c., slightly over one cent a pound less than the average price in 1912.

Of the 31 creameries 14 use the individual cans exclusively, 4 use both the large jacketed cans and the individual cans, 10 use the large cans exclusively, one uses tanks and two whole milk creameries of course use the ordinary milk cans. The individual can has some advantages over the large can as the butter-maker has control of the inspection, weighing and sampling of the cream where the individual can is used. On the other hand, the individual cans mean greater expense and more platform room on the hauler's waggon to accommodate the cream of any given number of patrons.

Of the 31 creameries, 21 are equipped with refrigerators. Two of these 21 are equipped with the "Madison Cooper" system, two with ammonia refrigerating machines, two with permanent storage of ice, two with cylinders for ice and salt mixture, and the remaining 13 with temporary ice storage. While the latter are very satisfactory when kept properly iced, this frequent icing entails more work and is apt to be neglected when work is heaviest, which is just when it is most necessary to have the ice chamber well filled. Undoubtedly for ordinary creamery work the permanent storage of ice will be the most satisfactory type of refrigerator.

Eleven creameries are using the scales for weighing the samples for testing with the Babcock test and six of the creameries are doing daily testing, the remaining 25 using the composite samples and testing monthly.

One hundred and seventy-eight samples of butter were tested for moisture, the highest test being 20.9 per cent., the lowest 10 per cent., and the average 14.37 per cent. This average is slightly lower than the average moisture of 1912.

One hundred and thirty-nine samples were tested for salt, the highest test being 6.86 per cent., lowest test .60 per cent., and the average 2.88 per cent. This average is considerably higher than in 1912.

There seems to be an increasing interest among creamery men regarding the question of moisture in butter. Every butter-maker who makes an effort to control the moisture content of his butter should make daily tests not only for moisture but for salt as well. Many men endeavor to increase the moisture content of their butter and by the methods employed lose as much or more in salt than is gained in moisture. For this reason as well as on account of the wide variations in the salt content of the butter from churning to churning in the same creamery, the salt test is as important, if not more so, to the creamery men than is the moisture test.

The creameries were for the most part well kept, having good drainage and apparently good water supply.

The quality of the butter was much superior to that of 1912, particularly in the early part of the season. The flavor was cleaner and milder, due largely no doubt to more favorable weather conditions. On the whole the body and texture of the butter was superior to 1912. A marked improvement in the body and texture and also in the flavor of the butter may be secured by more prompt and efficient cooling of the cream after it is received at the creamery.

In closing I wish once more to thank the different instructors for their co-operation and assistance during the entire season. Each year usually finds one or more of our staff leaving for other fields of duty, and this year I regret having to lose the services of Mr. Singleton who has been my assistant for five years and who now goes into the services of the Federal department. For these years of excellent work I wish to extend to Mr. Singleton my heartiest appreciation, and I trust that his new duties may be followed by the same well deserved success that has been his in the past.

THE CHAIRMAN: Before taking up the discussion on Mr. Publow's report we will have an address from Mr. Ruddick and some of the exporters from Montreal. Mr. Ruddick will speak on the cheese box question.

MR. J. A. RUDDICK: Mr. Publow spoke of the small number of cool curing rooms that are being used in Eastern Ontario. I had the management of the experimental cool curing rooms that gave the start to that work, and I regret very much that the conditions of the trade have militated against the spread of the use of cool curing rooms. They are making more progress along that line in Western Ontario, where practically all the factories are equipped with cool curing rooms. There are half as many cool curing rooms in the Lake St. John district, 200 miles from Quebec, as there are in Eastern Ontario. Of course under the system of shipping the cheese almost out of the hoop, cool curing rooms are not required; that is one of the things that has injured the cheese trade of Canada. It has done more harm than all the other things combined. I started to make cheese over 30 years ago; the price for making at that time was a cent and a half per pound. It did not cost as much to run a factory at that time as it does to-day. They did not pay the cheese-maker as much as they do now. I received $30 per month and my board for running a cheese factory. In the old days a cheese-maker could get board for $10 per month. All these things are higher, and yet the average price for manufacturing is lower than it was at that time. The cheese business will not make the progress it should unless the patrons realize that it will be in their interest to pay a little more money and get a better service. Our experience is

that the patrons are quite willing to do so if you put the matter before them in a proper way.

There has been a tendency of late to exceed the moisture limit in butter, and I want to give notice that that matter will be carefully looked after in the future. There will be quite a number of inspectors appointed, and Mr. Singleton has been taken on particularly for that purpose, and I am bringing one of my staff from the Old Country who has been a Scotland Yard detective.

I want to say a word or two about cheese and butter packages. We have had a great many complaints about broken boxes. It is a very common thing for a whole carload of cheese to arrive at Montreal with half the boxes broken. We have a special man at Montreal whose business it is to watch the arrival of shipments of cheese and make a careful count of the broken boxes and to report, giving the shipper's name, if possible. We communicated with some of the cheese boards, and they rather resented the suggestion that they had anything to do with the matter. That may be quite true, but the loss comes back to the producer and you cannot get away from it. A great deal of the trouble results from the cheese boxes drying out and becoming brittle. The material is getting poorer and they are cutting it thinner and the boxes are not as good as they were some years ago. It would be a great help if every cheese was made to properly fit the box. You have heard that for 40 years, and it is as true as ever. A great deal of the trouble is caused by not stowing the cheese properly in the cars. The patrons haul the cheese from the factory and load them in the cars. They are more anxious to get their horses away from the railway track than they are to see that the cheese is properly piled in the car; it does not occur to them that there is any necessity to see that the cheese are properly piled in the car. Very often they are left standing four or five high, and the first time the car is shunted these piles topple over and the boxes are broken. If the car cannot be filled the piles should be broken down so that the cheese could only slide from one to the other. Some one should be on hand to see that the cheese are properly loaded on the cars. The railway company does it in some places. It would not cost very much to have a man on hand to look after the loading. I have loaded hundreds of cars of cheese, and I know how difficult it is to have the thing properly attended to; because a man who delivers a load of cheese never knows whether he is the last or not. It was thought at one time that the paper box would be a solution of the matter, but, so far, any attempt in that direction has not been satisfacory. I know something of the New Zealand cheese crate, and I have one of them here for your inspection. This crate has carried two cheese from New Zealand to London, and was shipped from there to my department. It has not been fixed up, and it is in exactly the same condition as when shipped. It is seldom these crates are damaged. They never have to open a crate to try a cheese, they slip the tryer between the slats. There is no reason why these crates would not serve as well as any other package. They have no objection to them on the London market, but at Liverpool they are not so favourably disposed towards the New Zealand crate.

Q.—Have you any estimate as to the cost?

A.—The cost in New Zealand would not be any criterion of the cost in Canada. One firm in Pembroke said they could make them for 48 or 49 cents, but the sample they sent me would not be satisfactory. They made the head round and the staves were lighter.

Q.—Would not there be more danger from vermin with the New Zealand crate?

A.—If you would see our boxes when they arrive on the other side in broken condition you would not think they were much protection from vermin. Of course that is one objection to this package.

Q.—Quite often a factory is eight or nine miles from the railway station, and these packages would not be a protection from the dust or rain?

A.—It would be a simple matter to protect a load of cheese from the rain or dust.

Q.—It would be necessary that the two cheese should fit that crate exactly?

A.—Of course if the cheese were too big you could not put it in at all.

Q.—If the cheese was too small would it not wreck the crate?

A.—No; two men usually handle these crates. I want to call your attention to the branding; this brand is put on each head—the name of the factory and the registry number and the weight. They are required by law to put that on. Here is the Government trade mark, it was a second grade cheese in that crate.

Q.—New Zealand cheese are not as heavy as Canadian cheese?

A.—These two cheese weighed 158 lbs., there is not much difference.

Q.—What is the diameter of that box?

A.—I think 15 inches. It is made of native New Zealand white pine, it does not split very readily. If any manufacturer would like a sample of this crate I would be glad to send him one.

Paper Boxes. I have another package to which I wish to call attention. This package is made to hold 60 one pound prints of butter. There are four thicknesses of paper and two air spaces around the butter all over. It carries well and stands the usage. If there was much moisture it might get soft. This box in 500 lots costs 12 cts.

Q.—Where are they made?

A.—You can get them from any box maker. These were made by Thompson-Norris and Company, Niagara Falls, Ont. This other paper box is made to hold four small cheese. One objection to this box is that the cheese mould in it rather more than they do in a wooden box, but if the cheese were paraffined there would not be much difficulty in that regard. I think these packages are going to be a great service in the butter trade. These boxes are made of double faced corrugated straw board.

I am very glad to have had a chance to say these few words. I think the time is coming when we will have to consider these crates. Of course there would be objections on the part of the trade, because you cannot handle these crates in the same way that our cheese boxes are handled, you cannot roll them down a chute in the same way. They have had no difficulty in handling them in New Zealand. If a Canadian box is well made and in good condition I think it makes a good package, but it does not arrive in the Old Country in good condition.

Q.—Would the cheese lose weight in these crates?

A.—This crate is ventilated more than a Canadian box on which the cover fits tightly, but the Canadian box is generally broken. It may be of interest to know that New Zealand has never used scale boards on their cheese.

Q.—You would not approve of discarding them?

A.—No.

A. A. Ayer, Montreal, Que.: I will confine myself to a few remarks. It is needless to tell you how much your cheese is thought of: the price you are receiving is the best evidence of that. There is still room for improvement. Mr. Ruddick has gone fully into the question of cheese boxes. and I will not trouble you with

that. Surely there must be some parts of our vast country where lots of elm can be found. Why not ask the Government to aid and secure special rates, and bring the lumber from New Ontario?

MR. RUDDICK: Do you see any difficulty in handling Canadian cheese in a crate similar to the New Zealand crate?

A.—Last season I was on the other side and I talked the matter over with quite a few of our clients and in all cases they were opposed to the New Zealand box.

MR. RUDDICK: That is assuming that we have a good box?

A.—Of course if we cannot get better stuff than our boxes are made of at present, then we will have to get something else. It takes two strong men to handle the New Zealand crate, and conditions are not the same in Canada as they are in New Zealand.

MR. RUDDICK: At some places they are loaded direct from the trucks to the steamer.

MR. A. C. WIELAND, Montreal, Que., was introduced and said: Standing here as a representative of the Montreal Produce Merchants' Association, I would like to say first and foremost that the Montreal Produce Merchants' Association considers the main thing in our whole trade and the most important reason for our existence at all is due to the fact that the dairymen, the farmers, the makers and inspectors are doing their work well and that they are getting good emolument for what they are doing. The main basis of trade is that each man should get a fair recompense for what he is doing in that trade. The cheesemaker should get a fair thing, the farmer should get a fair thing. The farmer has to look after his cows and see that they get a fair thing; then the buyer has to get a fair thing and the merchant has to get a fair thing. Each one should get a certain proportion for what they are doing. Some people think that the Montreal end of it gets all the good that is in the business. If you will look back not many years, you will find that the farmers of this country were not in as good a position as they are to-day and the fact that they are getting about 60 per cent. of an increase on the dairy products above what they used to get, must be something that they should be proud of. I remember distinctly a time when we used to be able to buy our September cheese for 9½c. and 10c. a pound; 11c. and 12c. a pound was considered a very dangerous proposition, and I want to tell you that in the year 1903, which was the banner year of the Canadian export in the dairy industry, all the cheese that was bought over 10c. a pound lost money for the people who bought it, and some of the cheese went up to 12⅝c. In these days we have got to a level of about 12½c., and although some of the materials have gone up and the hired help has to be paid more. I think I am safe in saying that none of these things have gone up to the same extent as the price of cheese. I do not think the condition of the farmer of to-day is a bad one. I think he is getting a fair price for what he is producing. Somebody said yesterday that some things the farmer produces brought four times as much as he received for it, but I will guarantee that you cannot find any business in the world that is conducted on so narrow a margin as the cheese trade. If the Canadian exporter makes a quarter of a cent a pound, he considers himself very fortunate, but he has got to make more if he buys it in August and September and carries it through the winter in cold storage.

Our cheese is sold by a retail merchant in Great Britain at 14, 15 and 16 cents, and only when the stocks are very small does it get up to 17c. Even taking the highest price that it is sold for by the retail merchant, it only leaves a difference of

5c. a pound. The retail merchant in England cannot do business and live unless he gets about 20 per cent. or 25 per cent. gross profit on cheese, so you see there is not such a great profit to the Montreal merchant. You will remember before the cold storage warehouses were established the cheese used to come in very much heated, and it would deteriorate which made a considerable loss to the merchants, but the merchants went to the expense of putting up these fine warehouses and conserving the quality of the cheese to such an extent that I think it is as much due to their efforts that Canadian cheese have such a good name in the United Kingdom as it is to your improved methods of making the cheese.

As far as the cheese box question is concerned, I must say that 30 per cent. of them are roped before they leave Montreal, and although it looks bad it really makes a stronger package than a box without a rope. All the letters I receive from the Old Country against the New Zealand crate advise Canadians to stick to their own box, and it appears to me that we ought to have wood enough in Canada to make a good strong box. I think something should be done by the Government to see whether we cannot get a supply of suitable material for the purpose of making these boxes.

One thing that is affecting us is the decrease in the amount of cheese exported. I believe Eastern Ontario is not doing its duty with regard to dairy products. I think we could well follow the example of Denmark, a country that has produced such wonderful results. Their cows give on an average about twice as much milk as the Canadian cows. After all, it is not the cow but the men. We want to get men in Canada and the only way to get them is by educating the boys. The farming community has too long been considered as something inferior. I want to tell you that the agriculturists of Germany practically run that country, and the farmers in Denmark are the highest people in the community. Their parliament consists to a great extent of farmers, and they are proud to be farmers, and the Government does everything possible to encourage them. I believe the Government of Canada has done noble work, and we are proud of the men we have to deal with, but more can be done on the part of the individual farmers. Some people have said that in the next five years there won't be any more Canadian cheese to export, it will all be consumed at home. We have had a decrease of about one million boxes in ten years, and we have had a decrease of 195,000 boxes this year, and at that rate we would be finished in about eight or nine years; but when this country gets into mixed farming and when the farmers commence to get more out of the cows, you will be able to supply the increased population and you will gain on the export business, and I believe we will ship more than ever. I absolutely believe that.

There is a good deal of talk at the present time about the United States tariff. Don't make any mistake about that. The prices in the United States will lower just as soon as they put the wall down and you shove the whole business over there. Remember it was the United Kingdom cheese trade that gave the solid foundation to the dairy industry of Canada, and think that out clearly before you rush into a change of your policy. The United Kingdom is in the happy position that they don't have to depend on Canada or New Zealand. They receive produce from every country in the world. They used to get butter from Ireland but now Denmark is supplying it. Denmark captured the butter trade and Canada the cheese trade, and if you keep up your quality you will always have enough to supply the increasing consumption of our own population and also a large quantity to ship to the United Kingdom.

MR. RUDDICK: I have a letter from the Minister of Agriculture which I would like to read:

Would you be good enough to express to the President, Officers and Members of the Dairymen's Association of Eastern Ontario my regret that it is impossible for me to have the pleasure of attending their Annual Convention, and my hope that the Convention will be entirely successful and result in stimulating the industry throughout that portion of the Province?

Will you kindly say that I take the keenest interest in the development of this very important industry, and am anxious to express both for myself and the Government the strongest sympathy with everything that makes for the betterment of this very important branch of agriculture?

The Hon. Mr. Burrell asked me to say that the Government is prepared to carry out the main recommendations of the Royal Cheese Commission, and it is likely that inspectors will be appointed. There is some doubt as to whether it will be necessary to have new legislation to cover the administration of this new departure, but you can rest assured that the Government intends to carry out the recommendations of the Commission. During the past season I had a number of complaints from various sections in Eastern Ontario respecting the weighing of cheese, one particularly from Vankleek Hill. I sent Mr. Lemieux to visit this factory to investigate the complaint, and the fault was found in the scales. The Inland Revenue Department intend to carry on a close inspection of factory scales during the present year.

MR. J. B. COULTHAW: As a cheese box manufacturer, I would like to say that unless something is done in the next five years all the elm will be used up in this part of the country. We are now paying $40 a thousand for it. I do not think there are very many boxes from this part of the country that require to be roped. I have been making inquiries, and I understand there is no elm in New Ontario, and we cannot look for much more from Old Ontario. There is no other wood that will make a circular cheese box because we have tried everything. It is hard to get birch large enough, and if there is the least coarse grain it will not stand. Elm seems to be the only wood that will answer the purpose. If the price of cheese boxes is up this year, you need not be surprised.

MR. E. DENNING, who was one of the judges of cheese, and who is also in the export business, said: There is one thing I should like to compliment you on and that is the improvement in the quality of your cheese this year. (Applause.) There is no question but what you are improving all the time and we have to thank Mr. Publow and his inspectors for that. I think they are entitled to thanks both from you and from the Montreal exporters. I think if an average was taken of the cheese on exhibition from the highest to the lowest, it would come out at about 95, and that is a pretty high average. The cheese that you send to Montreal do not show that average and why should they not? You have cheese at this exhibition from factories from all parts of Eastern Ontario, and if the average can come up to 95, we ought to have that average on all the cheese that is shipped to Montreal.

A MEMBER: These cheese were manufactured in September and October and these are ideal months.

MR. DENNING: I would not say September and October were ideal months; frequently they are the worst months in the year, but of course we have not the hot weather we have in the summer, but we frequently have bad weather in September. I quite realize the difficulties you are up against on the question of cheese boxes, but I would advise you to stick to the present style of box just as long as you

possibly can. New Zealand has been imitating Canada in the manufacture, and they would have imitated our boxes if they could have done so, but they have not the wood. Do not let us follow New Zealand. There is a certain something about our packages, and our customers would be suspicious if we put our cheese in New Zealand crates.

ADDRESS.

G. G. Publow, Chief Dairy Instructor for Eastern Ontario, Kingston.

I would like to express my appreciation to the cheesemakers of Eastern Ontario for the manner in which they have supported this exhibit. I know that many of the makers went to a great deal of trouble and expense to exhibit here. I am sorry that only a few of our instructors are here; I would like them to see that exhibit. I would also like to express my appreciation of the manner in which the judges did their work. We were fortunate in securing three of the best men obtainable, and they judged the cheese independently. I think it is fair to say that if these cheese had been scored individually they would have had a higher average score. Some Montreal men would have scored them 99 points. There was some little criticism as to the scoring of the flat cheese and the large cheese. I understand some of the flat cheese were made from the same curd that the large cheese were made from, and two or three makers have said to me that there are four points difference in the cheese. The flat cheese were judged by the three men not in an individual way, and they allowed a full point for color in the flat cheese. The same attention was not given to the flat cheese as to the export cheese.

It has been said by some makers at previous conventions that they did not have a fair chance to discuss things, but you will not be able to say that this afternoon, because we are going to give you every opportunity. There has been some complaint this year in regard to the breakage of boxes. Are the boxes any poorer this year? No, I think not. But the makers are trying to save expenses, and they are making the cheese a few pounds heavier, and they average from three to five pounds heavier than before, and they are putting them in the same sized box. A large percentage of the cheese this year come above the boxes and they will never carry. If the cheese are worth making well, they are surely worth boxing well. The men who manufacture the goods should see that they get to the market in the best condition. You should see that the cheese fit the box, and then they will carry much better.

We have pointed out from time to time the danger of putting cheese on the market before they are ripened, and yet you go home and do that very thing. This year for many weeks it was practically impossible to find any cheese on the shelves of the factories that were more than three or four or five days old. The Montreal men get the cheese in their worst condition. I do not think there is a time when the cheese are worse than when they are just four or five days old. We cannot do much more for you in the way of giving advice or instruction if you will not put it into practice, and you should not blame us if complaints come back to you. I know many cases where the cheese have gone right out of the hoop and have been put into damp boxes, and then the makers have wondered why the rinds have gone wrong. The cheese very rarely forms any more rind after it is boxed, and moisture is likely to occur in a tight box and the cheese

will mould more rapidly and turn out in a much less attractive condition. It is not enough that we should have our cheese well made, but we want them to look good when they are placed on the market. I am glad to say that a great number of the factories have increased the price that they pay the makers, and they are finding that it is coming back to them tenfold.

A MEMBER: We are paying 22½c. for boxes, and in Northern New York they are getting them for 15c.

ANOTHER MEMBER: I got them for 17c. Last year the De Laval people in Montreal charged 14c. and extra for the hoops.

MR. COULTHAW: We only want 20c., and we will give you a good box. Stormont, Dundas and Glengarry have the best elm in Ontario.

Q.—Has the casein been a little weak this year in the average factory milk?

MR. PUBLOW: That was in districts where it was very dry and the milk flow fell off. That usually happens when the cows shrink up in the milk early in the season as a result of dry pastures. Peterboro and Prince Edward sections were very dry this season, and some of the makers experienced trouble with greasy curds.

Q.—What is the best way to handle the curd in that case?

A.—The best way is to work them as fast as possible without destroying the texture. Have the milk a trifle riper when setting, and have the acid come along fairly well, and cook the curds a little higher than in normal milk. If the curds are inclined to be greasy after milling, they should be salted somewhat earlier and matured longer in the salt. The only danger of salting the curds early is that the cheese may be somewhat open, but if you give them sufficient time afterwards before hooping they are not likely to be.

Q.—Does high piling after milling tend to start the grease more quickly than if they were thinner and not handled so much.

A.—Yes.

Q.—How long would you advise to hold the curd after salting before hooping?

A.—Until it is sufficiently shrunk to make a close cheese.

Q.—Would half an hour do after salting?

A.—It might require an hour or longer. It is necessary to use good judgment and be guided by conditions.

Q.—If the curds were cooled down below 90 degrees would they stand to be piled higher than if they were warmer?

A.—Yes.

MR. PUBLOW: When bandaging I would recommend that you skirt the cheese and use plenty of hot water as this aids in removing the free fat, and the insuring of a better rind on the cheese.

Q.—Don't you think that the railway companies are responsible for a great many of the broken boxes?

MR. PUBLOW: In some cases they are. The majority of the cheese received at the exhibition building were in badly damaged boxes. I think many of them came by express, and there is probably a greater chance of breakage by express than when shipped in car lots. Where a number of factories ship their cheese on the same day at the same place, it would be well if some person connected with the factories were there to superintend the shipping and piling of the cheese in the car, and not leave it all to railway men. At Perth and some other points in the east they have a man to do this, and as a result there are very few complaints from those places. I find that some factorymen have been trying to

make a saving in the cost of manufacture by increasing the weight of the cheese about five pounds, and as a result in many cases the cheese have been too high for the boxes. This is false economy, the boxes should be made to fit the cheese properly if you expect them to carry it safely, and it is to be hoped that more care will be taken in this respect. Another means that is being adopted by some of the factorymen to save in the cost of manufacture is the installing of vats holding 10,000 pounds of milk, and then expect one man to make the cheese. I used to think I was pretty good at stirring out a vat of curd, but I would not like to tackle the curd from 10,000 pounds of milk alone, and be expected to do good work.

One of the reasons for complaint of cheese being weak and open is the lack of sufficient help to properly stir out the curds at time of dipping, as it is important that the curds are firm and elastic at this stage, if you expect a firm smooth textured cheese. The cheese on exhibition are above the average sent out from the factories, yet a number of them can be improved on very much. I would strongly advise makers to finish the cheese up well and have them look neat and attractive on the shelves. All these things add to the price that can be obtained for the cheese, and helps to build up a reputation in the Old Country.

Q.—I would like your views on the new stave box.

A.—I have had no experience with them. They look as if they would carry cheese safely, but I do not know whether or not they would meet the requirements of the trade. My advice would be to put a shipment in the hands of two or three of the Montreal merchants, and have them try them out.

A Member: I think it would be in the interests of the dairy business if the Chairman would put a motion before the meeting that all the factories in Eastern Ontario hold their cheese a certain length of time?

Mr. Publow: That was passed last year, and it had very little effect. It has also been passed by several cheese boards. It is one thing to pass a resolution, and another thing to carry it out. If the Government could see fit to pass an act setting forth the earliest age at which cheese could be shipped, at eight or ten days, and that any person who shipped it earlier would be liable to a fine, I think it would have a good effect.

Mr. Hogan: It is not fair for one man to be allowed to ship them out at once and another to hold them for ten days and receive the same price.

Mr. Publow: There is one thing I would like to see and that is the cheese being sold on their merits. I am sure the buyers would be glad to have this brought about, and I do not know of any other one thing that would go further to lessen the number of undergrade cheese. I feel sure that if something of this kind could be brought about that many of the defects now existing would largely disappear in a short time. However, I would advise those of you who are making fine cheese to keep at it and not become discouraged. Don't say there is no use in my doing good work when my neighbor does not. I would advise you to go home and endeavor to do better than you did last year. Keep on at the good work and have a higher ideal. You will not shoot any higher than the mark you aim at. Do not wait for the inspector to come around and find fault. If you hear of a maker that is doing good work, pay him a visit and see what he is doing, and compare your work with his. It is simply by imitating the men who are doing good work in this country that you are going to do better. Do

what the good men are doing, and improve upon it if you can, and that is the way to make a reputation for yourself, for our products and for our country.

J. A. SANDERSON: It is said that a great many of the boxes are broken because they are poor, and because they are not properly packed in the cars. Both the Grand Trunk and Canadian Pacific will furnish men to put the cheese properly in the car at any place where there is a sufficient number being shipped. I think if that were done it would eliminate 50 per cent. of the broken cheese boxes. Both companies have agreed to furnish a man at any station where 250 boxes are to be loaded. If this were done, it would do away with a great deal of the trouble with broken boxes. I think every shipper should insist upon having a man to see that the cheese are properly stored in the car.

A MEMBER: I would like to ask Mr. Publow if he does not think a great many of the difficulties that we find at the cheese factories could be overcome if we had proper equipment at the Kingston Dairy School for the purpose of doing research work.

MR. PUBLOW: I am not just clear on that point.

THE MEMBER: I think it would very much add to the efficiency of the people who have charge of the Dairy School if the Government would equip the school with appliances for research work. I do not think it would be out of place for this meeting to ask the Department of Agriculture to increase the grant to the Kingston Dairy School so as to provide a larger staff and more equipment for the purpose of doing research work, and I take pleasure in moving the following resolution:

"That whereas the Dairy Industry of Eastern Ontario could be materially advanced and assisted by increased equipment and facilities at the Dairy School, Kingston, be it resolved that the Department of Agriculture be requested to increase the grant to that institution in order that the additional staff necessary to do research and experimental work may be available, and that more efficient work may be conducted under the supervision of the principal."

I understand both members at Kingston have been asking the Government to increase the grant, and I think a resolution from the Eastern Dairymen's Association would assist in this good work. The resolution was seconded by Mr. Campbell, and was carried unanimously.

A MEMBER: I would like to ask Mr. Publow whether he finds that the makers are shipping green cheese where they have cold storage facilities. I have often found that they ship the cheese out quickly so as to get them in cold storage.

MR. PUBLOW: There is no doubt but that those who have cool-curing rooms keep their cheese longer than those who have ordinary rooms. There are a number of factorymen who ship close to the hoop, who claim that it is for the purpose of having them in cold storage for a week before selling. I think it is unfortunate that every cheese factory is not properly equipped to give the best service. I hope the time will come when every cheese factory will have a cool-curing room.

MR. CAMPBELL: I think you will find that there are a number of Saturday night's cheese that are a detriment to the industry. Last year I found ten cheese that were made on Saturday, the 8th of June, and unknown to the cheesemaker I followed them to Montreal. I asked the exporter to keep out two of those cheese. On the 19th of November I was in Montreal, and the cheesemaker who made the cheese was with me. I had these cheese brought out and they bored out pretty good. I had them shipped home to me and kept them at a temperature

of about 70 degrees, and it is remarkable to watch the development of them since that time. A number of cheese like that on the Old Country market would be a great detriment to the industry. Those cheese were made in three hours. I would ask Mr. Publow if he would recommend a three hour process?

Mr. Publow: No. We get the best results in from six to seven hours. Cheese that are made in a short time may try well when they are new, but they are not likely to keep sound for any length of time. Reference has been made to research work to be conducted at the Kingston Dairy School. I am in sympathy with that movement. I do not think there is enough research work relating to dairy problems done. There is one thing I would like to impress upon the makers, and that is the keeping of a daily record of the working of their vats, showing how they work from day to day, and keeping samples of cheese long enough to see how they turn out. I find that many of our young makers are not nearly as good judges of cheese as they should be. They are not receiving the training at the factories in this respect that makers did a few years ago. I would strongly advise young makers to take advantage of every opportunity of becoming good judges, for no person should be better judges of cheese than the men who make them. We find that nearly every buyer in Montreal is an expert judge, and we should be able to say the same of our makers. Then, again, we find that many of the cheesemakers are becoming too mechanical. That is, they are depending solely on the rennet test, or alkali test, or the hot iron test, without taking into consideration the changes in the weather or in the raw material and other conditions, and as a result we have many defective cheese. Cheesemakers should think and combine common sense with the tests, and it should be used every day if you expect to make good uniform cheese. The profession calls for forethought and attention at every stage of the process. I sometimes think that too much is expected from the schools and the teachers. The student must think for himself. I would say to the students of the Dairy School, if you should find something going wrong in your factory work, refer to the lectures in your note-book. If you cannot rectify the wrong do not lose any time in getting in touch with some one who can help you. If you cannot get your instructor, go to your neighboring maker and if he knows more than you do not be above asking for information. It may help him as well as yourself.

ADDRESS.

J. R. Dargavel, M.L.A., Elgin.

I really wanted to come to Cornwall, because there are so many old associations connected with this place, and it is the home of a man who has played such an important part in the history of our Province. Sir John Sandfield Macdonald, and our Premier, Sir James Whitney, lived here at one time. I am sure you all regret, as I do, his ill health at the present time. I am sure the people of Cornwall must be proud of the fact that you have sent two men to Parliament who have been Premiers of this great Province.

I have been connected with the Dairymen's Association for many years, and for the past few years I have been the connecting link between this Association and the Government. I had been President of this Association, and when I entered the Legislature I knew the wants of the Association and I have been able

to do something to further the interest of the Association; and when furthering the interest of the Association I was furthering the interest of the dairymen of this Province. I have always found members of the Government, particularly the Minister of Agriculture, ready to listen to the wants of the Association, and anxious to do all in their power to aid this important industry. The same thing has been true of the Government at Ottawa, no matter which party is in power. Perhaps some of us do not realize what it means to have a sympathetic Government in the country. Both the Federal and Provincial authorities have spent a great deal of money in furthering the interest of the dairymen in this country. Every student that is sent out from the Dairy Schools cost the Government at least $200. I do not think any one thing has contributed more to help the dairymen than the instructors who have been sent out by the Government. The product of a country is established in a market by its general average, and our butter and cheese suffered on account of a certain portion of it not being up to a high standard; but when we received a larger grant from the Government we were able to employ more instructors, and we found good results and it had an effect on the price of our products. I am frequently asked: "What is the use of the Dairymen's Association?" Each and every one of the movements for the advancement of dairying in this Province made by the Government has been at the instance of this Association. At the present time our chief instructor has power to put out of business any poor, miserable factory which formerly disgraced the trade, and he has the right to go into any factory and point out to them any improvements that are necessary and insist on these improvements being carried out. We may sometimes feel that we are not making the progress that we ought to, but when we look back and take stock of what has been done during the past 25 years, we can feel that much good has been accomplished. We do not meet with ready response from the farmers on all occasions, we should have had this room filled to overflowing by the farmers of this district during these meetings. I am not on the Board of Directors at the present time, but we have a Board of Directors who are doing all they possibly can for the dairy interest of this section of Ontario.

The people living in this town may say, "How are we interested in dairying?" If it was not for the prosperity of the farmers of this country you would not have so many spindles running in this town or so many men working in your factories. The prosperity of the country is bound up in the farming community, for if they are prosperous the country is prosperous.

I would like to take this opportunity of returning thanks to your member, Mr. J. C. Milligan, for the way he has stood behind me in any efforts I have made to procure assistance from the Government for agriculture. Although there are quite a few farmers in the Legislature they are not always quite as active in the interest of their own calling as some of the other members.

You have an agricultural representative in this county who is looking after the interest of all the farmers; these men are doing a wonderful work. Then we have our Dairy Schools and the College at Guelph. It has always been a matter of regret to me that we have not sent more students to the Guelph College from Eastern Ontario. It is one of the greatest institutions of the kind in the world. The Government is spending many thousands of dollars there and we should get the benefit of it.

For the last few years we have held district dairy meetings in each district where the people have an opportunity of discussing some of the problems that we have been discussing here.

ADDRESS.

J. C. Milligan, M.L.A., Cornwall.

Looking at the people that I have seen at this convention for the past two days makes me feel sorry that I ever left the farm to try and eke out a living by the practice of the law. We have seen the Eastern Dairymen's Association grow from a very small beginning to what it is to-day, and we do not know what it is going to end in, but we know that it is making progress from day to day and year to year. In the old days you would know a cheese factory before you got within a mile of it. Now you can go through a cheese factory and find everything clean and up-to-date. This is the result of the work of this Association. The members of this Association have worked hard, and the result is that to-day we have clean factories, and a product that commands a good price on the British market.

It is a problem for you farmers to solve to-day, as to whether you will sell your milk and cream to those who may want to buy it, or whether you will keep on as shareholders in this great dairy business that you have built up. You may ruin it by selling your milk for the time being at a little higher price. It seems to me that after having gone through the lean years, and now being on the top of the pile and getting good prices for your milk, that it would be a serious mistake to do anything to injure the progress of the cheese trade by accepting a temporary increase in price by selling your milk for consumption in the United States. However, it is a question for the farmers to decide. You have built up a large business and you are getting good dividends, and I do not think you will do anything to injure that business.

You have a number of questions to solve; how to take care of the cattle and how to get the most milk from the cow, and how to take care of the milk. Then you have the transportation question to solve; you want to get your product from the farm to the consumer as speedily and easily as possible and to avoid too many middlemen. We hear a great deal about the middlemen; the consumer has made the middleman, and now they are kicking about him. I am told that you can buy Canadian products as cheap, or cheaper, in the old country as you can in Canada. They say the reason for that is that the farmer in the Old Country is not ashamed to hitch up the old grey horse and peddle his produce in the city or town. Our farmers won't do that because they have made too much money and are getting too rich. The women in the Old Country go to the market and carry the stuff home. The women in this country will not carry a market basket; they have a telephone in the house and call up the grocer and order what they want and they have to pay for the delivery, and that all adds to the cost.

We have heard a lot about men leaving the farm and going to the city to live. Why do a lot of the young fellows leave the farm? One reason is that the young man from the country comes to the city on a visit and all he has to do to get water is to turn a tap and he can take all he wants. If he wants to go any place he can jump on the street car and go, and there are so many conveniences in the city that when he gets home he begins to think that things are unhandy, and he makes up his mind that he is going to get out of the country and go to a place where things move a little smoother. There is something spreading rapidly through this country that is going to have a great effect on life in the country, and that is electricity. The day is not far distant when we will have electric railways on our country roads. The farmers' houses will be

lit by electricity, and their machinery will be run by electricity, and the water will be pumped by electricity. The day is coming when the Hydro-Electric Commission will be in a position to deliver electric energy to the farmers of this Province at cost, and then the farmer can have all the conveniences that the people who reside in the city have. That will be an important factor in keeping the boy and girl on the farm, and will make rural life more congenial and will have the effect of inducing many people who now live in the city to go back to the land.

SOME RURAL PROBLEMS.

Dr. G. C. Creelman, O.A.C., Guelph.

I feel that before commencing my address I should congratulate the town of Cornwall on having again secured the annual meeting of the Eastern Dairymen's Association, and I hope you are convinced that this Association is one of the finest things in this great Dominion. Without casting any reflection on any of the other associations I can say that the Eastern Ontario Dairymen's Association is doing a great deal of good, and is one of the best Associations we have in the Province. It has at the back of it some men who have taken a deep interest in its welfare, and the results can be seen in the splendid exhibition which you have in the town of Cornwall, of butter and cheese.

Perhaps there never was a time in the history of Ontario when there was as much need for instruction in agriculture as at the present day.

Farming and farm operations have changed so materially that the father cannot now give the best and most up-to-date instructions, even to his own boys.

Wheat is now but one of our minor crops, while corn, sugar beets, alfalfa, peaches, onions, tomatoes and tobacco, are coming to be counted among our staple crops.

The climate of Ontario seems to be adapted to the growing of so many varieties of crops that there is no reason why the farmer's daily life need any longer become monotonous. Ontario has changed her methods with the new order of things, and owing to the superior intelligence of her people has established herself as one of the best farming Provinces of the whole world.

Notwithstanding the great development in our Western Provinces, the field crops of Ontario yet exceed in value all the field crops produced in Canada, west of Winnipeg, in spite of the fact that a large percentage of the western farmers have been drawn from Ontario farm homes.

As one goes through this Province, from county to county, and township to township he is forced to the conclusion that as an agricultural district, it is very highly favored indeed. Good land, well watered, an excellent climate with plenty of sunshine always insures fair crops; and while our bank managers in their annual statements often forecast good or bad times, according to the conditions of the crops in the West, yet, because they have never been disappointed in Ontario crops they never speak of what might happen if we had a failure here.

In this favored Province, therefore, one would expect to find farming the most popular business of all, and the people from cities and towns would only live in such places until they make money enough to own and operate a farm.

As a matter of fact, the situation is exactly reversed. Farmers' boys and farmers' girls are leaving, in large numbers, for the cities and towns, and most of

the farmers themselves hope to remain on the farm only so long as will enable them to make enough money which at 3 per cent. will give them sufficient income to retire to the neighboring town or city. Here they hope to pass their days in peace and idleness, to sleep late in the mornings and sit up late at nights, in fact to "eat, drink and be merry" all the rest of their lives.

You know as well as I do how differently it works out. The farmer has as much right to retire, after a life of hard work as anyone else, perhaps more so, as he is one man who has earned every dollar he has made. The difficulty is that he does not know the difference between the life of the producer and the consumer, nor can he appreciate the circumstances with which he would find himself surrounded when he gets out of his own element.

Speaking of the retired farmer, it seems to me that the great pity lies, not so much that he does not fit into his new conditions, but that his long experience, his habits of thrift, his knowledge of the community, and his leisure time are now all lost to the neighborhood in which he has done all his work, and in which position he should be able, in his declining years, to do a great deal of good.

You know perhaps better than I do how much clear-headed, conscientious, broad-minded help is needed among the school boards in our communities. You know what one man of the right sort could do with a little leisure in improving the appearance of the school and the conditions of the school grounds. You know what can be accomplished by such a man coming forward, in the support of the teacher, in the introduction of modern methods, and you know how such a man should stand as a strength in the community, and could very easily secure additional funds each year for the purchase of those little things, in the way of additional school equipment that make the difference between the mere humdrum teaching by lectures and text books and teaching by demonstration.

We Must Start Early: If, then, the coming generation of farmers are to be kept in the country, are to be expected to settle on a corner of the old farm after they have turned their larger property over to the son or son-in-law, then we must start very early to interest the boy and the girl in the ethics of rural living. The farmer boy must be encouraged to play in a systematic way; he must be taught to co-operate with his neighbors in everything; he must be instructed in the first principles of scientific farming; he must be encouraged to read widely and persistently. He must be taught to draw as well as to read and write, and he must be encouraged along the line of his talents, to do *everything* systematically that his latter days on the farm may lead to neatness about the buildings and fences, orderliness in the barns, stables, harness-room and the implement sheds; shorter hours for men and teams, the desire to adapt new methods which have proven to be the best at the colleges and experimental stations; and the readiness to change from one method to another, on the advice of the best farmers in the community.

All such ideas must be inculcated in youth; and as the parents are now asking for more help from the agricultural college, the boy will get more encouragement at home than would have been the case a few years ago.

This College, during its existence of nearly forty years, has proven by experiment, surely and definitely that farming certain fields in a certain way, that breeding and feeding certain classes of live-stock, that introducing certain crops on certain soils, that handling the orchard by certain methods, and by draining the land in a certain way, absolute success in farming is assured.

From that point, however, we have not done all that we should in getting this information to the individual farmer at his own farm.

We have at the present time over 5,000 farmers conducting experiments on their own farms, and reporting to us, but there are over 200,000 heads of families on farms in this Province whom we reach but indirectly.

Helping Farmers on Their Own Farms: As a matter of fact the difference between the average and the possible yield on the ordinary farm is 300 per cent.

I think I would be quite within the mark were I to say that our agricultural colleges and experimental stations had already proven, by experiment, enough facts to double the output on the ordinary farm, if put into actual practice.

The whole trouble has been that we have not been able to get the farmers to adapt these facts to their every day work on the farm.

For instance, alfalfa is worth pound for pound as much as bran is for feeding live stock. We can, and do produce five tons of alfalfa hay per acre in the ordinary season in Ontario. Bran was worth yesterday $22 a ton which would make the alfalfa crop actually worth to the farmer $110 per acre, and yet it is the hardest kind of work at times to persuade farmers who have suitable land to risk ploughing up even an old pasture to put into alfalfa.

The average cow produces about 3,000 lbs. of milk per year, and yet we have a cow in the College herd that produces 20,788 lbs by actual weight in twelve months. This is a difference of nearly 700 per cent.

The average hen in Ontario lays 60 eggs in a year, while last year we had a whole pen that produced 250 eggs each.

And so I might go on, but the very telling of these things does not help you to produce this kind of a hen, or cow, or crop.

We were a long time finding this out, but now we have come firmly to the conclusion that the only way to improve a farm in this Province is to actually send trained men into the country and leave them there long enough to get the confidence of the people.

Such men we have termed agricultural representatives, and we have now one in each of 40 districts in this Province, and they are all doing excellent work. They have already accomplished a good deal through holding short courses for farmers, longer courses in High Schools for farmers' sons; introducing pure seed; starting Farmers' Clubs; giving plans for farms for drainage: starting school fairs; judging at local exhibitions: taking old orchards and regenerating them and making them produce good fruit: helping in the selection of improved tools and machinery; helping to conduct experiments on different farms, and a thousand and one other activities according to climate, soil and altitude. I want you to watch the operations of these men and note the progress they are making, because I believe they are going to wield a greater influence on the future prosperity of Ontario than anything else that has ever been attempted.

Farmers' Problems: These of course are many, as they are in business of any kind, but the following seem to me to stand out as being the most important.

(1) The killing of weeds, and the planting of varieties of crops best suited to the farm and the neighborhood.

(2) The securing of better and more permanent hired help.

(3) Marketing of crops by co-operation with the neighbors so that he may get the most possible for his labor.

(4) The improvement of roads: the introduction of cheap telephones and the securing of electric power on the farm.

(5) Making the farm home and the farm life and work so attractive that the young people will not only be satisfied, but will be the envy of their friends in the towns and cities.

To accomplish these things, we must use all of the present machinery, and more if we can get it, but perhaps the education of our teachers has been wrong. Perhaps our educational system is at fault; perhaps we have been so anxious that every child should know a little of everything that the average boy and girl turns out to know little or nothing besides how to read and write.

Perhaps the time has come when we might introduce into our schools something of a real practical value, something that will make the child think and want to work as well as play; perhaps something that will make them enjoy their play more because they at times have to work. And perhaps it will make them enjoy their work more if it is work with plants and animals which are usually the delight of every child.

When the ordinary rate-payer comes to believe that the proper education of his child is his first duty, then he will not be satisfied with anything but the best in the shape of a teacher for his children.

It is ridiculous to think that we leave our young people for several years, during the time when their wits are brightest, and their minds clearest to the tender mercies of some young girl or man whose thoughts themselves are scarcely formed, and who are only making the business of teaching the stepping stone to some other profession.

Agriculture should be taught to every child in every rural school, and every teacher for such schools should have an agricultural college training before he or she is allowed to assume the responsibility of teaching farmers' sons and daughters.

May I say in conclusion:

(1) That I believe that farming might be made a very dignified profession if we only start to call it so.

(2) That the cultivation of the soil and making close and intelligent observations in nature study are good for the body, soul, and nerves.

(3) That a strong body and good nerves are essential in the lives of happy boys and girls, and are not unimportant even in grown-up people.

(4) That play is quite as essential for farmers' boys as for boys in towns, and that farmers have got to come to recognize this if they are going to keep the young men there.

(5) That money spent on school gardens and the improvement of school yards will lead to improvement in the homes surrounding in the neighborhood.

(6) That I want you to believe that we are on the verge of a great awakening to the possibilities of life in the country and—

Lastly, when transportation facilities have been further improved, when farm homes have been made more attractive, when farmers have themselves, through co-operation come to appreciate a little more the advantages of a proper education with more social intercourse and more play time, may we not hope to see many—yes, very many of you, make it your ambition to possess not a mere mortgage but a good Ontario farm.

ADDRESS.

Andrew Broder, M.P., Morrisburg.

I have an old book that was given to me by a neighbor which contains a record of what the people were doing in this district one hundred years ago. What struck me about this book was that the records of what the people were doing in 1826 are the very things that are of interest to us to-day. There were twelve townships in these three counties, and how many cows do you think they had in this eastern district at that time? There were 7,677 milk cows and 2,117 non-milkers. That is in Dundas County, and to-day we produce more dairy produce in Dundas County than they do in any other county in the Dominion. In twenty miles square of territory we produced over one million dollars worth of dairy products. Dundas County had 1,267 milk cows in 1826, and to-day we have 26,000 milch cows and 19,000 non-milkers. We have been doing something in this county. In 1826 there were only 58 houses in all this district. You can see the difference in 1914 the evidence is all around us. They had to tell in the old days how many extra fire places they had, because they were taxed if they had more than one. It was considered a luxury to have more than one. They had to tell how many carriages they had for pleasure, and they were taxed; they came after the fellow who had luxuries in those days. If there is any man in the world whom I envy it is the man who has been a pioneer. The pioneers of this country have the credit of doing something for their country. They hewed out the forest and built school houses and churches and reared their families and sent them out into the world equipped with economy and industry, two of the best things any community can have. We often forget that it is possible for us to be pioneers in other directions. Are there not new avenues for us to reach out into? Are there no new designs to unfold to the world?

We talk about the farmer coming into the towns, and I am sorry to see him do so, but in his declining years he wants certain advantages and privileges that he cannot get on the farm; he wants to get near his church and to have the advantages that a town or city may give him. I think it is a great mistake for him to go there. I often think that there is no calling in life that requires as diversified intelligence and as much room to use it as agriculture. The lawyer may be the ablest man in the country, and the doctor the most skilful, but each has to suffer sooner or later from the fact that younger men pass him in the race. That does not occur to the farmer. The farmer may be 80 or 85 years of age, and yet he can walk out into the fields and view his herds and flocks with the same pleasure and satisfaction that he ever did. He never has to go through the experience of the professional man and feel that other people are passing him in the race.

It is all right to feel that the farmer is the basis of the prosperity of the country. If he leaves the furrow, the soldier may leave the battle field and the banker his counting desk, and I am not so sure about the clergyman, because I am not so sure that he could work down here and board in heaven any more than other people. (Laughter.) The whole operations of life would stop if the farmer left the furrow. The people living in the city and town have not attached enough importance to this fellow because the farmers have been working for hundreds of years to feed the people cheaply, and they have done it. But now his butter and eggs and his cattle have got up in price and they are going to get higher, and how about it now? Well, there is only one remedy and that is to produce more on the

acre. What would happen to the world if Canada was a finished country like England and some parts of Germany and France. We talk about producing as much as we ever did, we should be producing enough for ourselves and to spare, that is what we should be doing. A man sat down to his breakfast at Ottawa last winter and what do you think he had for breakfast? Eggs from Russia, bacon from Denmark, potatoes from Ireland, and butter from New Zealand. What do you think of that? Is that what should take place in this country with our millions of acres yet unturned and unproductive. There never were such opportunities for any people in this world as there are before the Canadian people to-day on the soil. Here we are in this old eastern district within two or three hours of Montreal with a population of 650,000, and Ottawa on the north with 100,000 population; a market at your door for everything you can produce. I want to give you one instance of what can be done. A man settled in this district 35 or 40 years ago. He was a very industrious man. He accumulated considerable property and left two or three of his sons one hundred acres each. They thought the West was better and they sold their farms and went West. A young man who had been on a rented farm and had saved up $700 bought one of these farms for $7,500. There was a six acre MacIntosh Red apple orchard on this farm; it had grown up like a brush heap. This young man got one of the agricultural experts that Dr. Creelman has been speaking about to show him how to prune his orchard. The spring came and he sprayed it. A year ago last fall he sold the apples on the trees in that orchard for $900. Last year he sold them again for $900, and what do you think he got this year? $2,200. (Applause.) He did not have to pick or pack them, they were sold on the trees. He came out to Morrisburg and paid the balance that was due on that $7,500 farm. (Applause.)

There are too many men in this country with their coats on and not enough men in their shirt sleeves, and that is why it costs us so much to live. If you go up to the city of Toronto, what do you find? The greengrocer goes out into the country to meet the farmer and buys his load of produce and takes it to his store. His store is on one corner, and there is another store on the other corner. Mrs. John Thompson wants a cabbage and she telephones to the grocer on one corner. Mrs. Allen who lives next door telephones to the other grocer for a cabbage, and then two rigs go up with these two cabbages or whatever it may be that is ordered. Who pays for that? The people who buy. Why don't they take their market basket and go to the market and buy direct from the farmer? Let us get down to every day common sense. The farmer has the problem in his hands and it all comes down to this; we must produce more.

I will never be hung for being dressed too well, but I want to say this to the farmers of this Province: Do not allow your wife to be known on the street by the cut of her dress. I don't say that the dress should be expensive, but have it made in the fashion. Why should the man in the city or town say "That is a farmer's wife; I know her by her dress." That should never occur. Never go to town with your boots and overalls on. Your business deserves better and your family deserves better. Put your good clothes on when you go to town, and let them know that you are a farmer because you are well dressed, and a decent man who is willing to fight the battles of life with a clean coat on. The hard-headed people of this country can solve all our difficulties if they only make up their minds to do it. Do your duty here, and leave something behind you so that when a man comes after you he will say: "Somebody has been here because I can see his tracks." Some people are too slow and the opportunities pass before they get there. If you

want to do well in the dairy business you must get up early in the morning and get your milk to the station before the train passes. No man has the privilege of being in such close touch with nature as has the farmer, and the farmer who goes out into the corn field and only sees the weeds and the corn is living far short of his privilege; because he ought to see there the designs of nature showing her effort to feed the world, and if nature ceased her effort the world would become paralyzed and the people would come to want. (Applause.)

ADDRESS.

Geo. A. Putnam, Superintendent of Farmers' Institutes, Toronto.

I will not attempt at this late hour to say what I intended upon the subject of co-operation. It gives me great pleasure to meet with the dairymen from year to year, and I wish to express my gratification at the manner in which the instruction work is carried on through the capable band of instructors who are employed by the Ontario Department of Agriculture. My duties in connection with the instruction work are very light. I simply say to Mr. Publow in the East and Mr. Frank Herns in the West, "We have so much money, and you spend it to the best advantage. Come to Toronto and we will talk matters over and decide on a policy, and you can carry it out to the best advantage." We are also gratified that the members of the Board of Directors work so faithfully to make this work so effective.

It does not require any statement from me to convince the farmers of Eastern Ontario that dairying is a most profitable business. I am reminded of a statement made by a hard-headed, capable farmer at an Institute meeting held in Western Ontario not long since. His son had attended the Agricultural College. The old gentleman and his wife had been in the dairy business and had made a lot of money. When the boy returned from the College he saw that if they continued in the dairy business it meant a lot of early work and late work and he said, "Father, I don't believe we will follow this line of work." That boy had in mind the welfare of his mother, who had to work hard because it is difficult to get efficient help in the household on the farm. Although the boy was criticized by the neighbors and by his father, and thought to be lazy, he wanted to get something out of life and to make the lot of his mother a little easier. The old gentleman said at this meeting: "If we wanted to make money quickly and be sure of it, from year to year, we would go back into the dairy business." I think the farmers in Eastern Ontario recognize the fact that in the dairy line, whether it is in cheese making or butter making or supplying milk to cities, or whatever it may be, dairying is a profitable business.

I intended to say something on the question of co-operation but at this late hour will merely refer you to Bulletin No. 192, published by the Provincial Department of Agriculture, and which can be had on application.

It is discouraging to attempt farming without a good woman as a helpmate. I venture to make the statement that 95 per cent. of the successful farmers of Eastern Ontario owe their success in a great measure to the help they have received from their wives. (Applause.) Our Women's Institutes have developed in a satisfactory way in Eastern Ontario during the past four or five years. We have about 800 organizations in Ontario at the present time. The women are not talking very much, although they are reputed to be able to talk, but they are *doing*

things, and doing them well. They do not stay home and say: "We regret that our school is not in a sanitary condition," but they go to the trustees and say: "What can we do to improve the surroundings of this school?" They have seen that the school is put in proper condition and cleaned and ventilated, and they have looked to it that the grounds were planted with trees and flower beds. They have also looked to the health of the community in so far as they were able, and they have induced others to do their duty in the matter of public health. One speaker to-night said that he would not like to see the farmer's wife picked out on the street by the cut of the dress she wore. I wish to state to that gentleman that we now have three women in the rural districts of this Province giving systematic instruction in dressmaking. These instructors take a group of five institutes and form classes of 20 or 25 women in each centre, and they spend one day a week at each place for a period of ten weeks. We are also endeavouring to instruct along the line of food values and home nursing. We are trying to instruct the women and girls on the farm in those things that will be of real value to them in their everyday walks of life.

THE CHAIRMAN: A copy of a resolution has been placed in my hands which I am sure will meet with your approbation. It is as follows:

At the thirty-seventh annual meeting of the Eastern Dairymen's Association in session at Cornwall the following resolution was unanimously adopted, Moved by J. A. CAMPBELL, seconded by FRED N. DILWORTH and resolved; "That the members in attendance desire to express sympathy with Sir James Whitney, Premier of Ontario, in his severe illness, and to voice the hope that he may be restored to such a measure of health as will ensure to the Province and to this and kindred associations the benefit of his services and sympathy." The motion carried by standing vote.

THE CHAIRMAN: I desire to congratulate the people of Cornwall on the beautiful way in which this hall has been decorated. I am sure we feel grateful and appreciate the art with which it has been done. (Applause.)

SECRETARY'S ANNUAL REPORT.

T. A. THOMPSON, ALMONTE.

I have the pleasure as your Secretary in presenting my annual report for the year 1913.

Dairying is an industry peculiarly adapted to the Eastern portion of the Province of Ontario, and where it is thoughtfully and intelligently pursued, it yields larger profits than any other branch of farming.

The past year has been a most successful one for those engaged in the production of dairy products, and the prospects for the future of the dairy business have never been brighter.

With the heavy influx of immigration to our Canadian Northwest, and the ever rapid increase in the population of our cities and large towns, we are already consuming at home all the butter we produce, and our exports of cheese are annually decreasing.

The Dairymen's Association of Eastern Ontario has done more than any other organization in Canada in building up the dairy industry of this country and

placing it in the proud position that it occupies to-day. But there is still a great work to be accomplished. Not only must our own people be fed, but the Motherland is looking to Canada for a large percentage of her food stuffs, and it devolves upon this Association to put forth every effort to increase the production as well as the quality of our dairy products.

The Eastern Dairy School at Kingston is doing a work of inestimable value in educating the makers, and as a result year by year the quality of our butter and cheese is improving. The information that is being disseminated through the holding of our annual conventions, and dairy meetings through the different districts, is annually increasing the production of milk and educating the dairymen to proceed along more scientific lines.

Our band of enthusiastic dairy instructors appointed by the Ontario Government and under the generalship of Mr. G. G. Publow, are doing a noble work. But it is evident that more stringent methods will have to be resorted to if the pernicious habit of tampering with milk at the farms is to be effectually stamped out.

The Directors have added a new educational feature to the Annual Convention by the inauguration of a Winter Dairy Exhibition which has proven an unqualified success, and will no doubt stimulate the makers to put forth every effort to improve the quality of their goods in the future.

The District Dairy Meetings held during the months of November and December have been exceptionally well attended, and through them a valuable educational work is being annually conducted.

At these meetings gentlemen were nominated to comprise the Board of Directors for the year 1914, and I hope to see the selection which was made by the voice of the people confirmed by the unanimous vote of the members of this Association.

I wish to tender my sincere thanks to the President and the Board of Directors for their kindness and their ever willingness to assist me in the discharge of my duties as Secretary, which duty I have endeavored to perform with what ability I have at my command.

REPORT OF RESOLUTIONS COMMITTEE.

We have pleasure in submitting the following resolutions:

1. That we, the members of this Association desire to express our appreciation of the kindness of the Mayor, Council and the Board of Trade of the City of Cornwall, in furnishing the free use of very suitable buildings for the Convention and for the Dairy Exhibition, and we also wish to extend our thanks to the citizens of Cornwall for the excellent music furnished by them and for the kind reception they have given us.

2. Whereas the success and educational value of this Convention is due in a marked degree to the splendid addresses given by the various speakers, we desire to express our appreciation of their efforts and extend to them our sincere thanks for their assistance.

3. That the thanks of the members of this Association are extended to the press of Cornwall and other cities for the excellent reports given by them of this Convention.

4. That the thanks of this Association are hereby tendered to the Canadian

Salt Company of Windsor, Ontario, through their general manager, Mr. E. G. Henderson, for the very handsome badges presented by the company to the Association.

5. That the thanks of this Association are hereby tendered to Lovell & Christmas, Ltd., Montreal, Que.; A. A. Ayer & Company, Montreal; The Canadian Salt Company, Windsor, Ontario; Verret Stewart & Company, Montreal, Que.; The De Laval Dairy Supply Co., Peterboro, Ont.; and Geo. Hodge & Company, Montreal, Que., for the special prizes kindly donated for our dairy exhibition.

6. That, recognizing the great benefits derived from the dairy industry by the assistance from both the Ontario Department of Agriculture, and the Federal Department of Agriculture, we wish to express our sincere thanks and appreciation of the work done by these Departments.

7. That the thanks of this Association be tendered the Cornwall Club and the Cornwall Street Railway for so kindly extending to the members of this Association the freedom of the club and and of the street railway. Carried.

Moved by J. A. Campbell, seconded by T. H. Thompson, and unanimously adopted:

Whereas the dairy industry of Eastern Ontario could be materially advanced and assisted by increased equipment and facilities at the Eastern Ontario Dairy School, Kingston, Be it resolved that the Department of Agriculture be requested to increase the grant to that institution in order that the additional staff and equipment necessary to do research and experimental work may be available and that more efficient work may be conducted under the supervision of the superintendent.

HOW THE DISTRICT REPRESENTATIVE CAN HELP THE DAIRY FARMER.

E. P. Bradt, District Representative, Morrisburg.

The Position of the Dairy Industry.—In the 1912-13 report of Mr. J. A. Ruddick, Dairy and Cold Storage Commissioner, he emphasizes the fact that contrary to general opinion (which is based on the figures taken from the export trade) the dairy industry in Canada is not declining but is increasing. That while our export trade in cheese and butter has been declining since 1903, the production from year to year has really been increasing as much as in any other period in the history of the industry. It is well that these facts are known and they should be known by every dairyman in Canada, so that he should have faith in his industry and not lose heart and feel that he is engaged in a business fast losing popularity with his fellow farmers, and consequently inferring from this that other lines of farming must be more profitable.

The dairy farmer occupies a rather unique position in the great agricultural industry of our County. He is indispensable to the human race, and the products from his herds are a necessity for the maintenance and upbuilding of the nation. The child requires milk from its birth, in fact must have it or perish; the invalid often lives for years on it; the aged very often use it almost exclusively; the athlete uses it when in training for some trying experience of physical endurance, in fact it is the greatest of all foods for all people under all conditions. The young, the old, the weak, the strong, the poor, the rich; all these are customers of the producer of milk. From this we gather the reason of the stability of the

dairy industry, other commodities are unstable, and we find a great rise and fall in the supply and demand for them on the market, depending on times and money conditions. Financial stringencies and periods of tightness of money do not need to worry the dairy farmer. He knows that the commodity he has for sale is one of the necessaries of life, and that in periods of hard times it will be the luxuries that the careful housewife will dispense with while the consumption of the dairy products will go on practically at all times. There is no reason for the dairy farmer losing heart in his business. If some of his fellow farmers go out of dairying, all the more reason why he should stay with it. The urban population is growing rapidly, and even other lines of farming are becoming so specialized that there is not enough dairy products produced to supply the family on the farm. The ice cream trade is taking more milk every year, this all causes increasing demand for the products, and hence every dairy farmer who goes out of the business means a decrease in production and an increase in demand and a better price for those remaining in the business.

The important consideration for the dairyman to-day is not whether the industry is a paying one or not, thousands of farmers have proven that it is, but it is to endeavour to decrease the cost of production which very often mounts up higher than it should, caused by inferior individuals in the herd, the proper kinds of feeds being withheld, sometimes one of these factors, sometimes both. Either one of them is sufficient reason to cause an increase in the cost of producing a pound of milk.

The Work of the District Representative.—How can the District Representative be of service to help solve some of these problems and add his small quota toward helping on the great work of improving dairy conditions in Ontario. It may seem that some of the ways mentioned are rather indirect, but they have a direct bearing on the question in hand. In helping the fruit industry, we have our demonstration orchards, and hold demonstrations in spraying and pruning, and these serve as a practical means of demonstrating the value of certain ways of caring for an orchard. In growing grain crops special varieties of grain are distributed, and these serve as an illustration of the importance of suitable varieties. In the control of plant diseases and weeds we conduct spraying demonstrations on the farms of one or two farmers and show the effect of this treatment, in the control of Potato Blight and the killing of yellow mustard. In dairying our work is confined more to the educational side of the question as we have no herds supplied us with which to demonstrate. Our work includes short courses, meetings, organizations, formation of clubs, etc., with which I will deal individually. The District Representative can be of assistance to the dairy farmer in helping to keep before him the importance of the following features of successful dairying:

First, Increasing the Average Production per Cow.—In these days of scarcity of labour and high priced feeds it is more important than ever that dairymen should weed out the unprofitable cows and strive to build up their herds to as high an average production per cow as possible. If a farmer can keep ten good cows that will produce as much milk as fifteen common ones, there is no question but that he has saved labour and feed and his profits per cow will be much higher. Probably no better way of emphasizing these features and getting farmers to appreciate their importance has been found than the conducting of Short Courses in Live Stock Judging and devoting an afternoon to the discussion of the dairy cow. These Courses are arranged by the District Representative under the auspices of the Institutes Branch. As good specimens of dairy cows as can

be obtained in the district are secured and from those the instructor (who is usually a successful breeder of cattle) illustrates the type and characteristics of the cow found among the higher producers. The question of keeping herd records, feeding, management, etc., are also discussed and much benefit is derived at these meetings and the Representative is usually asked to arrange for another the following year if possible.

Second, Interesting Farmers in Cow Testing Associations and Keeping of Individual Records.—A farmer cannot know whether he is keeping unprofitable cows and which are the most unprofitable without keeping a record of his herd. The farmer who has a grade herd often feels that it is not worth his while keeping a record of his cows and it is a method which is not adopted very quickly by the average farmer. A Representative who is meeting the farmers from day to day can often get individuals to take up the work and after a time get enough people interested to form a cow testing association, and this is a most important line of work from the dairymen's standpoint.

Third, Handling Dairy Topics at Farmers' Club and Other Meetings.—There is no doubt in my mind that the cost of production is often unncessarily increased by extravagant feeding. By extravagant feeding, I do not mean that the farmers are overfeeding their cows as a general thing, far from it, too often they are too much underfed in order to get the highest production and maximum profit; but I do mean that very often onesided rations are fed to cows. It may be that too great a proportion of nitrogeneous feed makes up the ration thus increasing the cost of production as the protein is the most expensive element in the foodstuffs. We may find this case where the farmer has good clover or alfalfa hay and along with this, feeds quite large quantities of gluten feed, bran, or oil cake. On the other hand it may be that the food lacks sufficient protein to supply the nutrients for a cow giving milk. This is often the case where timothy hay, straw and corn silage is fed in bulk along with oat or corn chop without the addition of concentrates such as bran, oil cake, cotton seed meal, etc. In either of those cases the farmer might feed liberally and yet be feeding extravagantly, in the one case too much protein in the other not enough; either of which would not be economical feeding. These subjects can be handled at farmers' clubs and Institute meetings to good advantage.

Fourth, Assisting in the Organization of Breeders' Clubs.—These clubs are doing much toward advertising their respective breeds and showing the importance of keeping a pure bred sire at the head of the herd. They make it easier for a farmer to get in touch with those who have pure bred stock for sale. A Breeders' Club is not only a good thing for the breeders themselves, but it also serves as a means of interesting dairymen in the way of improving their herds. We have such a club in view for Dundas County at the present time among the Holstein breeders.

Fifth, Educating the Boys and Young Men.—The boys of to-day are the farmers of to-morrow. The future success of the dairy industry depends on them and their attitude toward it. Their attitude toward it is influenced a great deal while they are growing up. If a farmer is always preaching the slavery and poor returns of the dairy business, it is not very likely that his son will have a very good opinion of the industry. If they can be interested in up-to-date dairy practice they will find that it is impossible to make what many term a drudgery, an interesting business. After all, any work is drudgery if we are not interested in it and the hardest work is a pleasure if we are interested. It all depends on our attitude toward what we are doing.

At our four and six weeks' courses in agriculture for young men, we give them practice in milk testing, we study with them the principles of breeding and building up a herd, the question of feeds and feeding, the object and benefits of keeping individual records and they get to feel that dairying is more than throwing feed in the manger and walking around with the milk pail and milking the cow. They see that it is a science and that the degree of success with which they are likely to meet depends on their ability to properly handle the foodstuffs which they have to feed and the individual cows which make up their herd.

We interest the smaller boys at our school fairs where prizes are given on dairy calves, and they take a pride in brushing up the calves for that event and feel just as proud at winning a red ribbon there as their father would at the Chicago International. Who can estimate the influence that this may have on them, in causing them in future years to become interested in good live stock.

In conclusion I would say that I believe great advancement is being made in the dairy industry. I know there has been a reduction in the numbers of cows kept in a great many Eastern Ontario herds, but I also know that in many cases from the smaller herd more milk is being produced. This condition indicates advancement and augurs well for the future of the dairy industry.

A Member: What relation do the cold storage plants bear to the high cost of living? Charges have been made that the cold storage men have used their combined wealth to store up foodstuffs and keep up the price.

The Chairman (Senator Derbyshire): We all know that these cold storage plants were bonused by the Government, and they have been of great assistance to the butter and cheese men of this country. The Government also supplies us with refrigerator cars, so that it is now possible to get our produce on board the ships and sent over to the British markets in prime condition. The Government has men at Montreal and the British ports to see that a proper service is given and that our goods are handled in a proper way. There are very few men in Brockville who are able to buy large quantities of produce and place it in cold storage; that is not what we are doing down there. They store the goods for us and we pay them a small fee.

A Member: That is all very well, but we are told that there are large quantities of foodstuffs in cold storage.

The Chairman: There are not enough eggs in cold storage in Canada to last a month. We have been bringing in 400,000 people a year, and these people have to be fed.

A Member: I have been engaged in the live stock trade all my life. I can remember the time when we would be afraid to bring our stock on the market for fear they would not sell and we would have no place to put them. Since we have got cold storage we have a steady market; because if there is too much stock coming on the market they can be killed and put in cold storage and kept till prices warrant a sale. I can remember the time when we frequently had to ship our stock back to the farm because we could not get a price that would pay. I do not think the Government ever did anything that was a greater help than the cold storage.

Mr. Carter: An alderman of Montreal got up in his seat recently and said there was enough stuff in cold storage at Montreal to feed the Dominion for six months. That was investigated thoroughly, and it was found that there was not enough in cold storage in Montreal to supply that city for six days. I think these cold storage warehouses have been a bank that the people could draw on

when they wanted to, and they have been a great convenience. I think the good prices that are now being paid for farm produce is going to be an important factor in keeping the boy on the farm.

MR. E. P. BRADT: I certainly think that the young men who are on the farms to-day are seeing more encouragement to stay on the farm, as they have reason to feel that it is an occupation that has some dignity in connection with it. They can see more money in it for them, and the farmer of to-day is being looked up to as an important factor in Canadian life, and there is a better chance for a boy on the farm than ever before.

MR. JOHN HYATT: One of the greatest arguments in favor of keeping the boy on the farm is the fact that the farm pays.

ELECTION OF OFFICERS.

The election of officers was then proceeded with and resulted as given on page 4.

CLOSING REMARKS.

SENATOR DERBYSHIRE, BROCKVILLE. ....

This has been a great convention. The addresses have been of a very high order. If we could double the quantity of milk we are now producing we would put millions into the hands of the farmers of this section. The price of farm produce is going to be maintained, and the business is going to be more profitable than ever before in the history of Canada. The people that are crying out about the high cost of living should buy skim milk and oat meal. Prof. Harcourt showed us that it is the best material they can use, and it is certainly cheap enough.

If we can get the farmers to follow the advice they have received at this convention there is no reason why we should not flourish during the year 1914.

I would like at this time to introduce to this audience the President-elect for 1914, Mr. J. A. Sanderson. (Applause).

MR. J. A. SANDERSON: I can assure you that I appreciate very much the fact that you have seen fit to place me in this responsible position. I feel that in following such men as our retiring President, Mr. Gillespie, and the Hon. Senator Derbyshire and Mr. John R. Dargavel I have a good example to follow. When I look back and consider the training I have had all these years I hope and trust that I will be able to live up to the good advice I have received. I will not detain you at this time but desire to thank you, the dairymen of Eastern Ontario, for placing me in this position and to assure you that I will do all in my power to occupy it with credit.

THE CHAIRMAN: Before closing the meeting I would like to say that I was very pleased that our good friend, Hon. Mr. Duff, came down here, especially at this time when the session is coming on and the Prime Minister is ill. It only goes to show the great interest Mr. Duff takes in our work.

The Convention then adjourned.

Dairymen's Association of Western Ontario.

The Forty-seventh Annual Meeting of the Dairymen's Association of Western Ontario was held in the City Hall, Stratford, on the 14th and 15th of January, 1914, and was well attended throughout.

PRESIDENT'S ADDRESS.

S. E. Facey, Harrietsville.

As President, it affords me much pleasure to open this Forty-seventh Annual Convention in the classic city of Stratford. We well remember the able assistance rendered by the citizens and Board of Trade of this beautiful city at our last meeting here, when we held one of the best Conventions in our history, and we hope this one will be even better.

The city of Stratford and Dairy Conventions are linked together by reason of it being the home of one of the pioneers of the dairy industry, the late Hon. Thomas Ballantyne, who always took a deep interest in its welfare. It was pioneers such as he who laid the foundation of the dairy industry as we find it in Western Ontario to-day. In the days when cheese factories and creameries were few, men like him fought the battles and laid the foundation for the prosperity which now exists.

In the early days we had the common cow, which produced about two or three thousand pounds of milk per year. Since then by systematic feeding, careful selection and breeding, and the introduction of pure bred stock, we have succeeded in raising the production of whole herds to over ten thousand pounds per cow.

In those days there was no export market for our cheese, which in some cases was peddled through the country from Ingersoll to what was considered far north, Clinton and Goderich. Now we are exporting cheese to the value of $18,000,000 per year. This is a wonderful growth for one branch of the dairy industry during the last fifty years.

From the producer's standpoint, the past season has been one of prosperity. Pastures were kept fresh in most localities by timely showers, and, on the whole, there were good crops and an abundance of feed, which insures a steady milk supply. There was no protracted period of extreme heat, which was also favorable, as during the very warm weather we have most of our troubles with the production of milk and cream. However, by having a proper cooling system, these difficulties can be entirely overcome, and it should be imperative for every producer of milk and cream to have the same properly cooled.

The prices received for cheese the past season, although not so high as in the previous year, when a new record was established, were on the average good. The market opened very low, but as the season advanced the prices advanced, and for the whole season were above the average. Had the low prices continued, many patrons would have been driven from the cheese factories as they could not afford to produce milk for the price received during April.

We believe the prices of cheese are too low compared with other food products, since cheese is the cheapest food on the market to-day, based on its nutritive

value. People pay from fifty to seventy-five per cent. more owing to scarcity for meats and do not do much grumbling, but cheese remains about the same price to the producer although advanced considerably to the consumer. If our people only realized the food value of cheese there would be a larger home demand.

The butter market has been fairly steady, although prices have not averaged as high as a year ago. There is a good opening for the butter product, as the supply does not meet the demand. A few years ago we were exporting butter, but to-day we are importing it, principally from New Zealand. This should not be the case, as in an agricultural country such as we have, where mixed farming predominates, we should at least make enough butter for our own use.

Our exports of cheese have also declined during the past year. This has been due to the decreased production, and the increased home demand. A late Government return shows there are over one hundred less cheese factories in Ontario in 1913 than there were in 1912.

The outlook for the dairy business is bright. The increased markets for cattle and dairy products has produced a demand for cattle, and they have advanced in price at least twenty-five per cent. during the past year. The quantity of milk and cream required in the cities has made a good market for these products.

The weakest spot in the business is the cost of production, and this could be lessened by testing each cow and weeding out the poor ones. We think the cow testing one of the best things the Department of Agriculture has taken up for the dairy business, and we hope the work will be continued.

We desire to thank the Department for the able assistance both financial and educational they have given us in the past. It is owing to the splendid system of instruction that our cheese and butter are of such a uniform character, being second to none in the world.

DIRECTORS' REPORT, 1913.

Your Directors are pleased to report that although conditions were not so favorable as in 1912 the season just closed has, on the whole, been prosperous for the dairymen. Owing to the increased market for live stock, a number of dairy cattle have been disposed of by the producers, but during the next few years stock raising should be very profitable, especially hogs, dairy cattle and beef cattle. This should materially increase the demand of the producers for the very important by-products from the cheese factories and creameries. We look forward to a special movement along this line. We do not anticipate any considerable export of milk and cream during the coming season, as the home market is likely to absorb the output from the factories.

Price for Dairy Products.—The beginning of the season was somewhat discouraging in the matter of prices for cheese, and the early output was lessened accordingly, but later the market stiffened, and good prices were maintained for the balance of the season. The fall output was short owing to decreased milk flow, and from the fact that considerable milk was diverted into other channels. The statistical position of cheese, however, is very strong and the prospects for 1914 are very encouraging. The butter market has been active and good prices have been received. The output has increased over 1912 and future prospects look bright for the butter industry.

MEMBERSHIP.—Your Association has a membership of 330. Subscription to *Farm and Dairy* for one year is included in the membership fee of $1.

SPECIAL OFFICER.—A special officer was again employed to deal with cases of deterioration of milk. The Association is in debt to this work for 1913 to the amount of $134.00. Only 15 cases of deterioration of milk were reported, as compared with 54 cases in 1912, which indicates that the method adopted of dealing with this problem is getting results. Your Directors respectfully recommend the incoming Board of Directors to continue this system.

DAIRY HERD COMPETITION.—Your Directors donated $100 for this competition. Silver and bronze medals by Ryrie Bros., Toronto, and a silver trophy by the Canadian Salt Co., of Windsor, were also kindly donated. We regret that the number of entries were not as large as in previous years, but no doubt owing to the peculiar season patrons were not in as good a position to compete.

DAIRY EXHIBITION.—Your Association through your Directors donated $418 in cash prizes for this exhibition. Increased prizes were added for flat and Stilton cheese. We wish to thank all those who contributed special prizes. We feel that this exhibition should receive the support of all cheese and butter makers, as it has assisted in improving the quality and finish of our cheese and butter. We are pleased to state that the number of entries for October butter are more than double those of the previous year. We respectfully recommend to the incoming Board of Directors a continuation of this exhibition.

DEMONSTRATION BUTTER.—Your Secretary believing that you would be interested in comparing butter from other dairy countries with that made in Western Ontario secured samples of butter from New Zealand, Denmark, United States and the Province of Alberta. These samples are now on exhibition, and you will have the privilege of examining this butter.

FACTORY IMPROVEMENTS.—Several new creameries and one new cheese factory were built during the past season, and we believe the factory buildings are being improved as rapidly as conditions and funds will permit.

INSTRUCTION WORK.—The work of dairy instruction carried on by the Ontario Department of Agriculture in conjunction with your Association is resulting in a gradual improvement in the milk and cream supply, as well as in the finished product. A full report will be submitted by the Chief Instructor.

SPEAKERS FOR ANNUAL MEETINGS.—Speakers were sent to the annual meetings of the patrons of cheese factories and creameries, the Dairy Branch of the Department of Agriculture very kindly paying the expenses in connection with this work. We believe the milk and cream producers receive valuable information at these meetings, which is much appreciated. The work will be continued.

LEGISLATION.—Owing to rapidly changing conditions in connection with Canadian dairying there are several points relating to dairy legislation which will in the near future have to be considered. This will no doubt be dealt with at the proper time by the different departments.

BOARD MEETING.—Your Directors have endeavored to transact the business of your Association to the best of their ability. We wish to express our appreciation of the assistance given us by the Ontario Department of Agriculture to further the dairy interests of this Province through education, legislation, and money grants. The aim of dairy instruction and of your Association is to place the industry on a solid basis and endeavor to keep the quality of Ontario cheese and butter second to none produced in any country in the world.

THE FACTORY SITUATION.—It would appear that if a number of producers in

certain sections wish to leave the cheese factory or creamery at certain seasons of the year to dispose of their milk in other ways, in self protection the cheese and butter manufacturers will be obliged to raise the price of making to those patrons who insist on leaving the factory before the end of the season, and curtail the yearly output to such an extent that the makers in these sections cannot, under these conditions, make ends meet at the present prices for manufacturing. The factory owners in these special sections cannot be expected to run the factories with only five or six months' patronage from a number of the producers for the same price for manufacturing that they received when they could count on all the milk of all the producers for the full season.

Outlook.—Present indications point to a strong future demand for all the dairy products that can be produced in Canada, and we believe the milk producers will in the next few years reap large profits in dairying. The outlook for good prices was never better.

CAUSE AND PREVENTION OF BOVINE TUBERCULOSIS.

Prof. S. F. Edwards, O.A.C., Guelph.

Any seriously thinking individual can tell you the importance of this disease called tuberculosis among cattle or in the human family. Just how important it is, we do not know. I have in my hand a letter from Dr. Torrance, the Veterinary Director General at Ottawa, in reply to an inquiry sent to him asking for any data that the Government might have available to show the prevalence of tuberculosis in the Dominion or in Ontario. In reply he stated that the only data which they have are results of the inspection of the cattle slaughtered at the abattoirs, where Federal inspection is made, and that, of course, is a small percentage, comparatively, of the total number of cattle slaughtered in the Dominion, so that if we were to make a statement as to the prevalence of tuberculosis in Ontario based upon these results, it would be more or less misleading. In some of the neighboring States, such as Michigan, New York and Wisconsin, where they have been carrying out tests for tuberculosis for a number of years, and where they have compiled a considerable amount of data, they estimate that there are from 10 per cent. to 15 per cent. of tubercular cattle in those States; that is to say, 10 per cent. to 15 per cent. of all cattle are tubercular. There is no reason why we should believe that Ontario has a lesser number of tubercular cattle than they have in these neighboring States. Conditions are very much the same, and the original sources of cattle have been the same. Furthermore, stock breeders, and men who are in a position to judge go so far as to voice the opinion that there is undoubtedly a percentage of 10 per cent. or 15 per cent. of the cattle in Ontario tubercular. It is, therefore, a most vital problem and a very important one from the standpoint of the stockowner and the farmer.

One of the chief characteristics of this disease is the fact that it is a communicable disease. It is caused by a specific germ, *Bacterium tuberculosis*. This germ is the only organism that can cause a case of tuberculosis. We can put it the other way, and say that no case of tuberculosis can occur unless the germ of tuberculosis gains entrance to a cow or other animal from a previously existing case. If you had a herd that was free from tuberculosis to-day, and you could prevent the germs of tuberculosis from getting access, your herd would always be

free from tuberculosis. The germ, *Bacterium tuberculosis,* is the specific cause of the disease. There are accessory causes, such as dark, damp, poorly lighted and ventilated stables, underfed or overfed cattle, breeding too young, and other conditions that tend to lower the natural vitality of the body and the natural vigor of the animal. All these things tend to make the animal more susceptible to the disease. These are things that help the disease; conditions that decrease the vigor and vitality of the animals and render them more prone to attacks of the germ.

The general characteristic of the disease as seen upon a post-mortem examination is the formation of tubercles or nodules from which the disease derives its name. They may be located anywhere in the body. These tubercles are of two kinds: they may be hard and gritty, and in size as small as a pin point or smaller, up to tubercles the size of the fist or larger. If you cut through one of these hard, gritty tubercles with a knife it feels very much as if you were cutting into a bag of sand. That is due to the formation of lime salts in the tubercles as the disease progresses. The other form of tubercle is a large caseous one and the contents of the tubercle become broken down into pus.

As to the Means by which Tuberculosis may be Spread from One Animal to Another, or from One Herd to Another.—We will take up first the spread of the disease in a herd. If there is one tubercular animal in a herd, that animal may be the focus of infection for the other animals standing close by in the stable or of any animal in that stable. If the lungs are affected, as they often are, the cow may have a cough, and in coughing discharges from the lungs are expelled from the mouth; and the mangers, water troughs and pails, and the stable generally, may become infected with the organisms of tuberculosis and the other animals become affected from these utensils or mangers. Further, the germs, after they become dry, may be thrown into the atmosphere with the dust of the stable and be breathed in by healthy individuals. This explains how the animal at the far end of a stable may become infected from one that is a considerable distance away. The disease may be taken by a healthy animal from the feed box or water pail and swallowed with the food, setting up an attack of intestinal tuberculosis.

The third manner in which it may be spread in a herd is by feeding the calves infected milk either from tuberculous mothers or factory skim milk, or milk from any animal that is tuberculous. It does not take very many germs to give a calf the disease if the calf's system is in a weakened condition. If the udder of a tubercular animal is affected, the germ is almost certain to be in the milk. Furthermore if the intestinal system is affected and it is a case of "open" tuberculosis, that is, if there are tuberculous ulcers in the intestines, then the bacteria will be thrown into the intestinal canal, pass out with the faeces, and the milk may become contaminated with such faeces.

Another manner in which calves may be infected is before they are born. These cases, however, are very rare.

How can the disease be transmitted from one herd to another? First, by the transfer of an infected animal. You may go to a sale and buy some cattle that look good to you and take them home, and in a year or two you may have an outbreak of tuberculosis in your herd that was free before that time. No reflections should be cast on the one who makes the sale, for we cannot usually tell from the appearance of the animal whether it is tubercular or not, and the man who makes the sale may be perfectly innocent of selling a tubercular animal, but if you buy such a one and add it to your herd, it becomes a source of infection for the other animals in that herd.

Another manner in which the disease may be transmitted from herd to herd is by feeding calves from factory by-products. Where you do not get your own product back from the factory, but your neighbor's milk, and you do not know how many tubercular animals there may be in the neighborhood, and when you feed this milk to your calves, you run a chance of carrying tuberculosis into your herd. There is also a strong probability of infecting hogs in the same way, by feeding them factory by-products. Tuberculosis of hogs is to all intents and purposes identical with the tuberculosis of cattle. That is, the bovine type of the germ is able to infect hogs. If the hogs are fed on raw factory by-products they run a chance of infection in the same manner that I have mentioned with regard to the calves.

Another source of infection in the case of hogs is the feeding of offal from abattoirs where tubercular cattle are slaughtered.

There are three ways in which it is possible to detect the disease in cattle: First, by clinical symptoms, that is, the appearance of the animal; but, this is a very unreliable way to detect tuberculosis. Some individuals claim they can detect a case of tuberculosis by an ordinary clinical examination of the animal. I have seen a good many cases, and I have seen some where to all external appearances the animal was in excellent condition. One of the first bad cases I saw was at an experimental station; it was a grade Shorthorn, and up to within a very few days of that animal's death she was in most excellent shape, but at the post mortem examination we found every organ badly affected with tuberculosis. We have had the same experience with the animals slaughtered from the College herd at Guelph. A good many of the cases which had, by the tuberculin test, been shown to be tubercular were in excellent physical condition, and gave good milk yield, but on being slaughtered they were found to be in an advanced stage of the disease. We cannot depend upon a clinical examination to detect the disease. Of course if the animal dies, and we find, on a post-mortem examination, that she is tubercular, there is no question about it, and that is the second method by which we can detect the disease in a herd. By opening the animal and having the material examined microscopically, we are able to detect the germs of tuberculosis. That can readily be done in a properly equipped laboratory, and then the diagnosis is complete; but a post-mortem examination comes pretty late, and we should have some means of knowing whether tuberculosis is present in a herd before it gets so far that even one animal is lost. If the disease has caused such inroads in a herd as to cause the death of one animal, the chances are pretty great that there are more cases present in that herd; whereas if we had some means of detecting it, the disease could have been stopped before it got such a headway.

This brings us to the third possible method of detection. First, we have the clinical symptoms, second the post-mortem, and third is *the tuberculin test.* The tuberculin which is used in making the test is prepared something in this manner. In a properly equipped laboratory the bacteriologist takes what he calls a pure culture of the germ of tuberculosis grown under artificial conditions. These germs are grown in a nutrient broth, for a few weeks at body temperature. During that period of growth the germs manufacture and excrete into that broth certain chemical products. These when injected into an animal are able to cause a feverish condition in a tubercular animal. In some way or other the product of the growth of the bacteria in that beef-tea is able in a tubercular animal to cause a rise of temperature—a feverish condition—within a few hours after the material is injected into the animal. In a healthy animal, or one free from tuberculosis, the injection of this bacterial product has no effect whatever. This, briefly, con-

stitutes the tuberculin test. It is an injection into the animal of the products of the growth in the beef-tea of the germ of tuberculosis. If we inject that tuberculin into our cattle and take their temperature for a few periods after the injection and find that there is a rise in temperature, that rise in temperature is pretty definite information that these particular animals are affected with tuberculosis.

The Manner in which the Test is Conducted.—Temperature determinations are made for a few periods, three or four or five on the day before the injection is made or on the same day. We will start at nine in the morning and take the temperature of all the cows and then take it again at twelve and again at three and six. That will give us an idea of the average normal temperature of each cow in the herd. We inject the tuberculin just beneath the skin in the evening, about nine or ten o'clock, and begin to take the temperature the next morning about six, and take the temperature every two or three hours during that day following the injection, and if there is a rise in temperature of two degrees or more above the normal temperature, and if the highest temperature after injection goes to 104 degrees, we say that animal is tubercular. That is the Dominion regulation regarding the tuberculin test. The temperature has to be taken at intervals of three hours, commencing with the tenth hour after injection, and if the temperature goes to 104 degrees and is two degrees above normal, that animal is classed as tubercular. I have made a chart showing the results of the actual test of five animals:

Temperature before Injection			Temperature after Injection—Injection at 10 p.m.						Before and after Injection, Maximum	
4 p.m.	6 p.m.	9 p.m.	6 a.m.	8 a.m.	10 a.m.	12 noon	2 p.m.	4 p.m.		
100.2	101.1	101.8	100.1	100.4	100.4	100.3	100.6	100.8	101.8	100.8
101.1	101.0	101.1	100.8	103.5	104.0	104.0	103.6	102.8	101.1	104.0
101.9	101.7	102.1	102.5	104.5	106.1	106.3	104.4	102.1	102.1	106.3
102.3	101.9	102.6	103.4	104.9	105.9	105.9	103.2	102.8	102.6	105.9

The first animal would not be classed as tubercular because the temperature did not rise, but the others would be classed as tubercular because as you see the temperature rose steadily the next day. That is what we mean by reaction in the tuberculin test. The temperature will begin to rise about the 10th or 15th hour after the injection is made, and will go in a more or less gradual curve, reaching its highest point somewhere about the middle of the day. Sometimes it is up to the highest point at ten hours. Animals react differently. After the middle of the day the temperature will subside and the temperature will get back to normal about five o'clock.

As to the Reliability of the Test.—In the report of the International Commission on Bovine Tuberculosis (the Commission was appointed two years ago by the American Veterinary Association—and the personnel of the Commission comprised some of the best authorities on tuberculosis both in Canada and the United States), it is stated that the tuberculin test is an accurate, reliable method of diagnosis. In data published from the Department of Agriculture, Washington, from about 400,000 tests they found that the test was apparently accurate in 98.8 per cent. The tuberculin test is a far more reliable diagnostic test than we have for any other disease at the present time, human or animal. There are certain limitations to the tuberculin test. This same report of the International Commission

finds that the tuberculin test may not produce reaction under the following conditions.

(1) *When the disease is in a period of incubation.* By a period of incubation in any disease, we mean the time that elapses from the time when the germ actually gets into the body to the time the disease becomes apparent. The period of incubation varies; in some animals it may be four weeks and other animals three months. The usual recommendation is that an animal under six months should not be tested. It does not do any harm to test them, but the results on an animal under six months are not so reliable as they are on older animals.

(2) *When the progress of the disease is arrested,* that is if there has been a partial cure and if the disease has been arrested, in that case the tuberculin test may not show a decided reaction

(3) *When the disease is extensively generalized, that is, in most advanced cases.*—In cases like the one I mentioned, where every organ in the body is affected, for some reason or other the tuberculin test is not reliable. When they get so bad that you cannot detect the presence of the disease by the tuberculin test, there is usually some external evidence to show that there is something the matter. If the animal has a high temperature from any cause whatever or if the animal is diseased in any way, these conditions indicate that the test should be deferred until the animal is back to the normal condition. The animal should be as near normal conditions as possible when the test is made, and if it is in normal condition, then the test should give fairly accurate information.

The question has been asked as to the effect of tuberculin on the health of animals, and the statement has been made that the tuberculin test causes tuberculosis. One point I neglected to mention when I told you how the tuberculin was prepared is that before it is put on the market the beef-tea culture is heated to the boiling point and passed through a very fine porcelain filter. Heating to the boiling point itself is sufficient to kill the tubercle bacilli, because they are destroyed at a temperature of 140 or 150 degrees F., so that there is no danger whatever of transmitting a case of tuberculosis by the use of tuberculin.

In order that a case of tuberculosis may occur, the living germs must be transmitted from an already existing case. If there are no living germs in the tuberculin, how can the disease occur?

How are we going to eradicate the disease after we find it present? Supposing we test cows and find a certain percentage are tubercular, what is the procedure necessary to eradicate the disease from the herd? There are a number of factors which enter here. First, we have to separate the healthy from the tubercular stock. Tubercular animals can carry the disease to the healthy ones. Of course the best method would be to maintain two separate herds. Take all the healthy ones out of the tubercular stable and put them over into one that you may designate as the clean stable. Put them into a different building if possible. That is going to involve some extra labor and expense, but the result will be worth while. If two buildings are not available, the next best thing is to put up a partition through the stable, thoroughly disinfect one end of it, and put the clean stock over in that clean, disinfected part. Some work along that very line was done in Wisconsin to see whether it would be effective or not. The experimenters there put up a row of scantlings and sheeted it up on both sides, making a cheap partition through the stable, and they found that even under these conditions they could maintain one herd free from tuberculosis, with tuberculous animals on the other side of that thin partition. It is a matter of keeping the germs away from the healthy in-

dividuals. One point that should be observed in maintaining two stables is that if there is only one attendant, there should be separate shoes or boots and separate clothing for the two stables. You should not wear the same shoes or clothing in the clean stable that are worn in the infected stable because of the fact that the tubercle bacilli are sometimes thrown off from the body and in the discharges from the mouth, the clothing and shoes may become contaminated with the germs and you may carry them over to the clean stable in that way. That may not be a very important factor, but in fighting tuberculosis we have to observe all the little points.

Feeding of Calves from Healthy Cows or from their own Dams after the Milk has been Pasteurized.—We found in carrying on the work with the herd at the College, that a clean herd could be brought up from a tubercular herd. I will read you a brief paragraph or two from the report of the work we have done down there. Calves from tubercular mothers can be brought up clean if they are separated immediately at birth and fed only on milk from healthy cows, or their own mother's milk after it has been pasteurized—heated to a temperature sufficiently high to destroy the bacilli. Of course these calves must be maintained separate from the tubercular stock. I do not say that all tubercular animals should be slaughtered. That is one way in which the tuberculin test has got into some disrepute. Some people say that every cow that reacts should be slaughtered right away. That is not necessary. Cows that are not valuable as milk producers or breeders should be fattened and slaughtered under inspection. If an animal reacts under the tuberculin test, it does not necessarily indicate that she is unfit for meat. She may have a little lesion, not larger than a hazel nut, somewhere in her body. That is enough to cause a reaction, but it is not enough to hurt the carcass for meat production, so that in the case of animals that are not valuable from the standpoint of milk or breeding, they can be fattened and slaughtered, and if the disease has only just started or slightly advanced, there is no reason why the carcass should not be used for meat. Breeders can be kept and maintained in a separate stable and the calves can be brought up from these animals free from infection and a herd can be built up free from tuberculosis. Of course all precautions must be observed. If you can buy an animal subject to the tuberculin test, well and good, but that does not always hold good. Prof. Day bought some cattle recently subject to the tuberculin test, and they have since reacted, and that brings up one of the tricks that can be employed in connection with the tuberculin test. After an animal is tested and reacts, if that same animal is tested again within a short time, it will fail to react. There seems to be a physiological action in the cow's body that prevents the tuberculin from causing a reaction if the cow has recently received an injection of tuberculin, and some men if they are going to sell an animal subject to the tuberculin test will inject the animal with tuberculin, and then if they are tested two or three weeks after it will fail to react. That is one of the limitations of the tuberculin test, but of course it is not a legitimate argument against the test as a reliable diagnostic agent.

One other point that is essential in the handling of a tubercular herd is to test the cows occasionally, at least once a year; twice a year is better. For some reason or other when you test in the spring some animal may not react. It may be in the period of incubation, and if you test that animal again in six months, she may give reaction, and that cow should be weeded out if you want to have a clean herd.

I told you of the experience we had in the herd at Guelph, and what we

endeavored to do to establish a clean herd. This work comes directly under the supervision of Prof. G. E. Day. A great deal of the work was done by Prof. Wade, who is now Director of the Live Stock Branch. He has been very active, and he and I were more or less closely associated in that work. We began in the spring of 1909. The first case we knew positively that had tuberculosis was one of the dairy cows that died. A post mortem examination was held, and the presence of the disease positively proven. That was the start of the campaign against tuberculosis in the herd at Guelph. That same spring the tuberculin test was applied for the first time in a number of years, and at that time there were 30 animals, and of these 21 reacted; two were doubtful and 7 passed clean. Of the seven non-reactors, three afterwards reacted, so that we had 26 reactors and four non-reactors out of a dairy herd of 30 cows. There is a tubercular percentage of 80.6. Of these 26 reactors, 14 have been slaughtered during the past three years, leaving 12 in the quarantine stable. Of the 14 slaughtered, with one or two exceptions they were all found to be very badly diseased; they were all examined carefully. In some cases we could find only a few tubercles, nothing to condemn the carcass from the standpoint of use for meat. Of the four non-reactors, two have been killed and found free from the disease and the others are in the stable. As the reacting animals were very valuable from a breeding standpoint, they were kept in the quarantine stables for the sake of their offspring. The calves from the reacting cows were put in a clean stable and fed milk from healthy cows. At the present time there are 25 heifers and young cows which have passed the tuberculin test, and of these 25, three were from healthy cows and 22 had tubercular mothers. In three years we have a beef herd of 54 animals free from disease and a clean dairy herd of 30, and I believe there are about eight tubercular cattle. That has been accomplished by the careful use of the tuberculin test which was carried on twice a year, and by the removal of reactors from the herd and by the most careful use of lime and carbolic acid once a year. There are eight or ten tubercular cows still in what we call the "rotten" stable. They are being kept for the sake of their offspring. I thank you very much for your kind attention.

Hon. Mr. Monteith: Has it been proved that cows that have been kept separate and the calves kept separate and fed clean milk are free from tuberculosis?

Prof. Edwards: I said there have been a few cases of tuberculosis in calves when they were born, so that we know there is a possibility of infection before birth, but such cases are very rare. There have been very few recorded and we could almost disregard that point in building up a herd. But that emphasizes the importance of testing the herd once a year—twice is preferred, because there may be a tubercular calf dropped, and by the time that calf is a year old, the disease would show and we would be able to take it from the herd.

Mr. Johnson: Is there any danger of human beings being infected with tuberculosis from drinking milk from a tubercular cow?

Prof. Edwards: There is a good deal of discussion along that line as to the probability of the bovine disease being transmitted to the human family. The consensus of opinion seems to be that there is practically no danger of transmission of bovine tuberculosis to the human adult, but some of the best medical authorities hold that 8 per cent. to 10 per cent. of the cases of tuberculosis in children under eight years of age are of bovine origin. I know that recently there has been some discussion on that point in the daily press: some authorities hold that the pasteurizing of milk for city supply is an evil because they say the pasteurized milk is more dangerous than unpasteurized milk, and other authorities claim that pasteur-

ized milk is much less harmful than raw milk. Perhaps we would do well to adopt the suggestion given by the Hon. Mr. Burrell in his speech at Guelph the other night in connection with the opening of the new Agronomy Building, when he said: "It is all right for use to be sure, but we should not be too cock-sure." There is one thing we can be reasonably sure of and that is that if all the herds that are supplying milk for table use were tested with the tuberculin test, and if the reacting cows were eliminated from the herd, we would be reasonably sure of having a good supply.

PROF. J. H. GRISDALE, B.S.A., Director of Experimental Farms for the Dominion, gave an address on "Common Sense Cow Feeding." A report of his address, to be found on page 20, covers practically the same ground.

REPORT OF DAIRY HERD COMPETITION, 1913.

Two Diamond Hall Medals (enclosed in handsome cases), donated by Ryrie Bros., Toronto; $100.00 in Cash Prizes, donated by The Dairymen's Association of Western Ontario; a Silver Trophy, donated by The Canadian Salt Co., of Windsor, Ont.

CLASS 1.—FOR PATRONS OF CHEESE FACTORIES.

Section 1.—To the patrons who furnish the 1st, 2nd, 3rd and 4th largest amounts of milk per cow to any cheese factory in Western Ontario from May 1st to Oct. 31st, 1913. From herds of 8 to 14 cows (inclusive). 1st, $10.00; 2nd, $7.00; 3rd, $5.00; 4th, $3.00.

Section 2.—To the patrons who furnish the 1st, 2nd, 3rd and 4th largest amounts of milk per cow to any cheese factory in Western Ontario, from May 1st to October 31st, 1913. From herds of 15 cows or over. 1st, $10.00; 2nd, $7.00; 3rd, $5.00; 4th, $3.00.

CLASS 2.—FOR PATRONS OF CREAMERIES.

Section 1.—To the patrons who furnish the 1st, 2nd, 3rd and 4th largest amounts of butterfat per cow to any creamery in Western Ontario, from May 1st to October 31st, 1913. From herds of 8 to 14 cows (inclusive). 1st, $10.00; 2nd, $7.00; 3rd, $5.00; 4th, $3.00.

Section 2.—To the patrons who furnish the 1st, 2nd, 3rd and 4th largest amounts of butterfat per cow to any creamery in Western Ontario, from May 1st to Oct. 31st, 1913. From herds of 15 cows or over. 1st, $10.00; 2nd, $7.00; 3rd, $5.00; 4th, $3.00.

Challenge Silver Cup.—By the Canadian Salt Co., of Windsor, Ont.; E. G. Henderson, Manager: A silver cup to the patron who furnishes the largest amount of milk per cow in Class I., Sections 1 or 2. The cup to become the property of the patron who wins the same three times, or twice in succession. A similar cup will be donated in 1914 by the same company for creamery patrons, Class II., Sections 1 or 2.

SPECIAL SWEEPSTAKES MEDALS.

A Silver Medal (value $10.00) to the patron who furnishes the largest amount of milk per cow in Class 1, Sections 1 or 2.

A Bronze Medal (value $10.00) to the patron who furnishes the largest amount of butterfat per cow in Class 2, Sections 1 or 2.

RULES OF DAIRY HERD COMPETITION.

1st. No herd of fewer than eight cows will be allowed to compete.

2nd. Figures must be taken from the cheese factory or creamery books, and the number of cows and the total average amounts of milk or butterfat must be certified to by the cheese or buttermaker, and the secretary of the cheese factory or creamery.

3rd. The average amount of milk or butterfat per cow must be calculated on the basis of the total number of cows from which milk or cream is sent to the factory during the season of six months, May 1st to October 31st, 1913.

4th. No substitution of one cow for another will be allowed.

THE WINNERS.

Class 1. Cheese Factory Patrons.

Section 1. First—John Van Slyke, Dunboyne. Dunboyne Cheese Factory, 100 acres in farm, 10 Holstein Grade Cows, 73,170 total lbs. milk. 7,317 lbs. of milk per cow.

Second.—F. E. L. Talbot, Lambeth. North Street Cheese Factory, 105 acres in farm, 8 High Grade Holstein Cows, 44,425 total lbs. milk. 5,553 lbs. of milk per cow.

Third.—W. Johnston, Listowel. Elma and Morning Factory, 13 cows, 67,101 lbs. total milk. 5,160 lbs. of milk per cow.

Section 2. First.—W. Jinkling, Listowel. Elm Bank Factory, 18 cows, 109,818 total lbs. milk. 6,101 lbs. of milk per cow.

Class 2. Creamery Patrons.

Section 1. First.—A. W. Van Sickle, Onondaga. Brant Creamery, 230 acres in farm, 8 Grade Shorthorn Cows, 1,711 total lbs. milk fat. 214 lbs. milk fat per cow.

Section 2. First.—H. F. Patterson, Paris. Brant Creamery, 150 acres in farm, 17 Pure Bred Holstein Cows, 2,390 total lbs. milk fat. 141 lbs. milk fat per cow.

Sweepstakes Medal.

John Van Slyke, Dunboyne.
A. W. Van Sickle, Onondaga.

Silver Trophy.

John Van Slyke, Dunboyne.

LETTER FROM WINNER IN COMPETITION AMONG PATRONS OF CHEESE FACTORIES.

Dunboyne, Ont., Jan. 2nd, 1914.

Frank Herns, Esq., London, Ontario.

Dear Sir,—Yours of the 24th received and contents noted. It was a pleasant surprise to be informed that the prizes had again been won by my herd, and all the more so because I had not intended to enter it until a great part of the summer was gone.

With regard to your request for an outline of the handling and care of the herd, I may say that it is composed for a large part of the same cows which won the sweepstakes three years ago. Some of the poorer cows of the previous year have been weeded out and their places filled by the offspring of the better animals. I always prefer to raise any additions myself, using my best cows.

The present herd consists of seven veterans of the year 1910, and three younger cows, all grade Holstein. The seven are the product of Grade Durham dams and a pure bred Holstein sire. The three are from Grade Holstein dams and pure bred Holstein sire. In all cases milking strain figures largely.

Good clover pasture constituted a great part of the summer feeding. When this began to dry up, a soiling crop of oats, sown early in June was ready and helped out the failing pasture quite acceptably. This oat pasture lasted until the first week of September, when sweet corn took its place. Very little grain was fed during the summer months, perhaps about three pounds per cow per day. This was in the form of oat chop.

We try to milk at regular hours. We stop the other work of the farm a

little early in order that the night's milking may not be too far distant from that of the morning. I have always carried out this plan and it seems to be a good one.

A good supply of fresh, cool well or spring water is always accessible to the cattle.

The quality of the herd, backed by these methods, is the only reason I can give for winning the splendid trophies put up by the Association this year.

I trust that these few words carry the information for which you asked.

Yours truly,

JOHN W. VAN SLYKE.

LETTER FROM WINNER IN COMPETITION AMONG PATRONS OF CREAMERIES.

Onondaga, January 10th, 1914.

Mr. Frank Herns, Sec. Treas. Western Dairymen's Association, London, Ont.

DEAR SIR.—In compliance with your request as to how I handle my dairy herd, I will state that our herd is a dual purpose herd, kept up partly by the use of pure bred Shorthorn sire and partly by buying what seems good producing grade cows. We raise all the calves, giving them the whole milk for two weeks and then very gradually change to the separated milk until at the end of four or five weeks the whole milk is left out, at which time they are eating a little oat chop and some well cured clover hay. The calves with the exception of those needed for cows are fattened for the market at 2 to 2½ years old. To make use of the milk that is not needed for the rearing of the calves two to three brood sows are kept, and their litters are fed the balance of the separated milk together with other feed.

We aim to have the heifers freshen at about 2½ years old. They have been fed liberally up to this time and are always in good heart at the time of calving. It is my aim to keep them milking about a year after they freshen the first time. This trains them to a longer milking season than if they are let dry too soon.

Most of our cows freshen in April or early in May. We have not aimed to have them freshen at this season. I would rather they would freshen earlier in the winter. There is water always before them. In the cold weather they are not turned out very often, and therefore we miss having them bred earlier in the season. I never allow a cow to freshen when in a thin condition. If she is in low flesh when she goes dry she is fed enough grain with ensilage and hay to put her in prize condition. This I think is very important, because every good producing cow will fail in flesh when in full flow of milk. If they are thin when they freshen they will soon weaken, and will fail in the flow and the season will be shorter.

My success during the past season was perhaps partly due to circumstances. We had fewer other cattle on the farm, and as a result the cows had better pastures. Another very important point I observe is to change them to another field quite often. Another thing that helped our production and helped to keep the cows well up in their flow was a feed of about two quarts of ground oats,

barley and corn at each time they came in for milking, and still another thing which is very important, the cows at all times have access to a running stream of spring water to which it is so arranged they can go from any field on the farm.

I insist on kindness, regular and careful milking, with a constant supply of salt that they can go to at any time.

Our herd seems small for the size of farm, and it is much smaller this year than usual. We aim to keep 14 to 16 cows. Unfortunately we were forced to turn off 5 cows last winter and spring owing to deranged udders, and as I did not see just what I wanted at the time, I am replacing them this winter with heifers.

I am very pleased with my success in winning first place in my class, and also for winning the bronze medal, more especially because I had no thought of entering the contest until the season was nearly finished.

Hoping for a successful convention, I am,

Yours respectfully,
A. W. VanSickle.

LETTER FROM WINNER IN COMPETITION AMONG PATRONS OF CREAMERIES.

Alford Junction, Jan. 1st, 1914.

Dairymen's Association of Western Ontario, Mr. Frank Herns, Sec.-Treas.

Dear Sir,—In reply to yours of the 24th of December, 1913, I was quite surprised to have the honour of winning first prize, Class 2, Sec. 2.

In view of the fact that the herd commenced to freshen in October, 1912, and about half the herd freshened the early part of the winter, the last cow to freshen on June 9th, and two cows going dry the latter part of August, also selling one cow to the Nova Scotia Agricultural College, Truro, N. S., I am well pleased with results.

In regard to the care and feeding of my herd for the winter months, the cows are kept in the stable and groomed each day. The feeding being done at five o'clock morning and night, nothing fed at noon, the watering being done after each feeding.

The ration that I am feeding is composed of the following:

2 lbs. of oat chop and shorts mixed.
2 lbs. bran, 2 lbs. gluten feed.
1½ oilcake, 1½ cotton seed meal.
Mangels, 20 lbs., silage, 10 lbs., at each feeding.

The above is in addition to alfalfa or clover hay.

This is for heavy milking cows where we are milking three times a day, feeding in proportion of 1 lb. to 3 lbs. of milk.

I believe that good winter care of the herd has a lot to do with the summer milking, also in feeding the dry cows a good liberal supply of grain composed of oat chop and bran. I turn my cows on pasture about the 24th of May, feeding hay and some grain at night and morning, also keeping cows in stable at night for a week. With this method they do not mind the change at all. I also feed bran and oat chop or shorts equal parts during the summer months, also feeding silage twice a day morning and night from about the middle of July.

Hoping this letter may be of benefit to someone, I am,

Yours very truly,
H. F. Patterson.

EVENING SESSION.

JANUARY 15TH, 1914.

THE PRESIDENT: I am delighted to see so large an audience at our evening session. It is a great pleasure to have with us the Hon. Mr. Duff, the Mayor of Stratford, and the President of the Board of Trade. We regret that the Hon. Mr. Burrell is not able to be with us. I have much pleasure in calling upon the Mayor of Stratford to deliver an address of welcome.

ADDRESSES OF WELCOME.

JNO. STEVENSON, MAYOR, STRATFORD.

I am sure that I feel highly honoured this evening in having the privilege of welcoming the Dairymen's Association of Western Ontario to our city at their 47th Annual Convention. I can assure you that we appreciate very much the honour which you have done us in selecting Stratford as your place of meeting. As long as I can remember, this city has been very closely associated with the dairy interests. Possibly we know more about dairy matters and are more closely identified therewith owing to the fact that for many years we had the late Hon. Thomas Ballantyne with us. He was called the father of the dairy industry. It has been said, and I think with truth, that the Hon. Thomas Ballantyne did more for the dairy interests of the Dominion of Canada than any other man.

After referring to the advantages of Stratford as a convention town, I can assure you that we appreciate the importance of the dairy industry because we know that it represents one of the largest interests that any body of men are engaged in in Canada to-day.

Again thanking you for selecting Stratford as your Convention city and extending to you a cordial invitation to make Stratford your headquarters from year to year, I will make room for the other speakers.

THE CHAIRMAN: On behalf of the Dairymen's Association of Western Ontario, I thank you, Mr. Mayor, for the welcome you have extended to us. This is not our first visit to Stratford, and on every visit we have made to this city, we have been royally entertained by the city of Stratford, and we hope that at some future occasion we will have the pleasure of visiting your city again.

MR. MCLEOD, PRESIDENT OF BOARD OF TRADE, STRATFORD.

I am delighted to be present. As a representative of the Stratford Board of Trade, it affords me very much pleasure to welcome you to-night. The Board of Trade are inclined to welcome any people who will advertise our city. I consider this industry is of great importance in the development of our city as well as the country as a whole. The product of the soil is essential to success of manufactures of all lines; it means the development of our country as a whole and for that reason you are doubly welcome to the city of Stratford.

I thank you for your presence here to-night and trust that you may again select Stratford as your convention point.

HAS SOFT CHEESE A PLACE IN CANADIAN DAIRYING?

Miss Belle Millar, Guelph.

To-day is a day of changing conditions in dairy work as well as in other walks of life. If it were not so the subject of soft cheese would not be on this programme to-night.

A few years ago there was a need for more competent men for our cheese factories and creameries, and so dairy schools were established, and our conventions were given over largely to addresses and discussions on the making of cheddar cheese and creamery butter.

But these men could not meet with the greatest success without the co-operation of the man on the farm, and such subjects as "The Care of Milk," "The Feeding and Housing Problem," and the work of the "Cow Testing Associations," have all had their place on the convention platform.

The milk supply of our towns and cities is another important question and trained men are required for our city milk depots at the present time.

The condensed milk trade has grown to the million mark, while the ice cream business is using two and a half millions of dairy material, and I feel sure that a year from to-day our friend, Mr. Herns, will provide a round table conference on ice cream making.

People are asking us for our experiences with binders and filers, and want to know what we have done along the line of condensed milk and saltless butter, and in our ice cream work: thus great fields of experimental work open up before us.

But there is another phase of dairy work that we are thinking about and just beginning to touch. I refer to the "soft" cheese trade. Did you ever think of the many kinds and classifications of both hard and soft cheese? This is the way some people divide up the cheese business.

(1) Canadian Cheddar—the only cheese; (2) Imported—anything with blue veining of mould; (3) Cream—everything that is spreadable. Now, while this classification may be rather amusing to some of us, let us run over them again. Canadian cheddar—we do not need to say anything about it. It stands on its merit, and if we are truly Canadian we will make it just as good for the home trade as we have been making it for the British market.

The kinds of imported cheese are many, but such as Stilton, Roquefort and Gorgonzola I do not think we need try to make here. Our conditions are so very different and our results must necessarily vary. Cheese have homes just like people. We have a good illustration of that in this country in the Oka cheese made by the Trappist Fathers.

Visits to our grocery store tell us that there is a much greater demand for variety cheese, but we need not take time to enumerate the many different kinds on sale in our Ontario stores to-day.

Although the amount imported seems small in comparison with our exports, yet statistics tell us that our imports have increased over fivefold in the past seven or eight years, and this supply is about one-tenth of the cheese consumed in Canada to-day.

Now we come to the third division, and if we take that definition and say that a cream cheese is any cheese that is spreadable we cover many varieties all the way from rich cream to buttermilk, because anything that is smooth is called

"cream" by many people. The MacLaren and Ingersoll varieties of cream cheese are among our oldest brands. They are well known from ocean to ocean, and the demand for this kind of cheese is steadily increasing. People are asking for a cheese put up in agreeable form and no waste.

There is another class of cheese which is newer to our Canadian people, that is a fresh, mild cheese made from cream, or part cream and part milk, such as the Gervais. There are also varieties of soft cheese made from fresh whole milk, such as the Camembert and Coulommier. The trade for these cheese is not large yet, but it is growing, and as this class of cheese becomes better known the trade will increase. We had an illustration of this at the Winter Fair. Among the educational exhibits at the City Hall, was one from the Dairy Department. Not only were there different kinds of cheese on exhibition, but there were printed leaflets regarding cheese and cheese dishes for distribution, and at certain hours each day free samples of cheese were given to the people.

It was surprising how well the cream cheese was liked, and how anxious the people were to know how to make it and where they could procure it. Although some of the varieties of cream cheese on sale in our Ontario stores to-day are made in the Provinces of Ontario and Quebec, we are also getting them from different places in New York State. The same thing is true in British Columbia, much being shipped in from the States to the south. I mention this to show that there is a demand, and this demand is bound to increase and we ought to be ready to fill it.

During the past few years some of our colleges have added soft cheese-making to the work of the dairy departments, so that anyone wishing to gain knowledge along such lines may do so. Some of the creameries in our larger towns and cities might have some variety of cream cheese or soft cheese as a side line. The City Dairy in Toronto, puts out one variety of cream cheese, while in the creamery of the T. Eaton Co., cream cheese and fancy varieties of cream cheese are made every day. They also receive mail orders for these cheese, showing that those who have tried them must have appreciated them.

Talking of mail orders, we shipped to Nova Scotia in the east, and with such satisfactory results that we tried British Columbia in the west. These experiments proved wonderfully successful when we consider the perishable product, the conditions of transportation, and the length of time in reaching the consumer.

This brings us to the question of keeping qualities. It is hardly fair to say that cream cheese will not keep, thus making people afraid to buy it. It will keep a reasonable length of time if kept under proper conditions—cold and dry. In our work last year we found that the cream, or what we call the Double Cream Cheese, would keep for three weeks, the Gervais nearly as long, and the Camembert for two weeks if kept in a cold place. (The Camembert referred to was fresh, not ripened.)

If we leave these cheese of high moisture-content on the counter in a warm store, or on the pantry shelf, we may expect them to mould and go "off" flavor quickly, but with refrigeration the keeping quality is increased. I think it would be well for the soft cheese manufacturers to supply the stores with counter dummies. They would advertise the goods, while the cheese kept in a cool place would mean a product reaching the table in a fresher condition, a better satisfied customer, and an increased trade.

A country that is growing at the rate of 1,000 per day must make provision

for the needs of these people. We require a food supply that will be nourishing and at the same time not expensive, and one of the ways that we can help to supply this is by utilizing the valuable dairy by-products, skim-milk and buttermilk.

Prof. Harcourt's food chart last year showed the value of these things and by putting them up in cheese form we lessened the bulk and at the same time add to their keeping qualities. Up to the present time we have not made much use of skim milk and butter-milk as a food supply, although in them we have a cheap food, rich in protein. On the American side they have made much more use of these things than we have, although the German people of Waterloo County give us a good illustration of what can be done with dairy by-products. Saturday morning brings many varieties to their markets and these find ready sale. There are many people in Ontario who are fond of the Dutch or Cottage cheese, but are not able to procure it.

Several inquiries came to us the past year regarding the making of skim milk and buttermilk cheese, especially buttermilk, as the majority of our creamery men have not skim milk to deal with. We have put up skim milk in the form of Camembert and Cottage cheese, while for the buttermilk we use what we call the "Wisconsin Method," which is so fully explained in Bulletin No. 211, of the Wisconsin Experiment Station. The keeping qualities were good if the cheese were kept cold, while the yield averaged high, the amount being influenced by many factors. The price of buttermilk would go up to-morrow if I were to say that it was possible to sell a dollar's worth of buttermilk for five dollars—more or less. We have in Canada 100,000 Jewish people who are ready to use this cheese if we give them what they want—a smooth, sweet, spreadable curd.

As cream cheese is the base of many fancy cheese, so buttermilk cheese or buttermilk cream might be used in the same way. Adding such a flavoring as pimento to it makes a good sandwich filling suitable for lunches, picnics and afternoon teas.

In this day when so much is said and written about the high cost of living. let us study the cheese question, its value as a food and its cheapness in comparison with many other foodstuffs; then we will be able to help people to solve their difficulties by giving them this advice: "When you cannot make both ends meet (meat) make one end cheese."

ADDRESS.

HON. JAMES DUFF, MINISTER OF AGRICULTURE, TORONTO.

I am very glad indeed to be able to put in an appearance at your annual convention, and the thought occurred to me that perhaps I might say a few words in regard to the line of agriculture with which you are especially identified, and also a few words in reference to some other phases of agriculture. There is no doubt that the work of the Eastern and Western Dairymen's Associations has resulted in great benefit, and the existence of these Associations has been fully justified not only by the extension of the industry in the Province, but what is much better, the splendid uniformity of make and flavor and the various things necessary to place it in the best position upon the markets.

I was down at Cornwall a few days ago at the Convention of the Eastern

Dairymen's Association where, for the first time, they had an exhibition in connection with their Convention, and the gentlemen who judged the cheese and the Montreal buyers who were present at the Convention pronounced it the most uniform lot of cheese they had ever seen in the Province. I think that of itself is sufficient reward for the years of patient persevering industry and effort that have been put forth by those who for all these years have been particularly interested in this phase of agriculture.

Although I only heard the latter part of Miss Millar's address, I was pleased to hear her refer to the address delivered by Prof. Harcourt on the "Food Values of Milk." I heard him deliver that address the other night at Cornwall, and it appealed to me to such an extent, particularly when we are hearing so much about the high cost of living, that I thought if we could only get the people to use more dairy products instead of the higher priced meats, we will have gained a considerable distance in making it easier to supply the family needs. I was so interested in Prof. Harcourt's address that I have taken steps to have it published in bulletin form.

I want to tell you where I got the best idea of what we are doing in milk production in Ontario—at the last Canadian National Exhibition in Toronto. I am sure many of you who are here will remember that in the Dairy Building in the right hand corner, they had in large letters on a banner, "This Niagara of Milk represents the product of the Cows of Ontario"—$40,000,000 annually. That might not have been surprising to some of you who have been closely identified with the dairy industry, but there was something more than that, and when the electric energy was turned on, the milk flowed over representing the Falls of Niagara and it came down on a pan and then was divided into three different divisions, one representing the milk of the Province that goes to cheese making, another representing the portion that goes into butter, and still another representing the portion that goes in ice cream, condensing plants and various other forms in which milk is used at the present time. It was a wonderful revelation. On the opposite side of that entrance, there were one hundred 80 pound boxes of cheese, and a banner on which it was stated that this pyramid of cheese represents the production of Ontario—8,000 pounds every ten minutes. And farther down there was a quantity of butter with the inscription that it represented the production of butter in Ontario every ten minutes—700 pounds. The production of ice cream and condensed milk is very much larger to-day in Ontario than formerly and is increasing rapidly each year, and that is one reason why butter is very much dearer than it used to be. Although the volume of milk produced has increased, it has not been so marked as the increase and the volume of milk that has gone into that particular avenue which some years ago was practically unknown in this province. The $40,000,000 worth of milk we produce is only one instance of the great agricultural wealth of the Province of Ontario. The value is not only in the money that comes to the people for their work, but in the fact that during these years the grain and the other food grown on the farm has been used to feed the cows, and that these farms become more and more prolific year by year. In other words, in every section of the Province where dairying has been carried on to any great extent, the people have not been selling the blood of the soil, but you have been increasing the fertility of the soil. You have done more than that, you have secured a uniformity of flavor and make, you have gained one of the most prominent places on the British market for Canadian cheese, and you have brought the people

of the Province of Ontario into greater prominence before the eyes of the British public. Some of the newspapers say that the farmers do not work long or hard enough and some people have an idea that our production is lessening, and they take it for granted that because our rural population has somewhat fallen off and the city population has grown at an enormous rate, that the farmers are not producing as much milk as they did, or in other words, they are not working as hard as they should. I took the trouble to get hold of some figures in reference to the percentages on that line and I think you will be astonished when I give them to you. I am speaking of Canada and not of Ontario alone. During the last decade, the population increased 34 per cent., and the milk production of Canada increased 43 per cent. Dairy products for export decreased 11 per cent., and dairy products imported increased 14 per cent. In other words the tremendous growth of our cities and towns, the wonderful industrial activity of the country, has meant that the market has increased to such an extent that during these years our exports have decreased somewhat and our imports have increased. Here is the marvellous thing about it, that the total consumption of milk per capita has increased 30 per cent.; that is to say, that while our population increased 34 per cent., the increased consumption of milk products per capita is 30 per cent. It means that during these years the people have become more wealthy and are using cheese and ice cream and various other lines of products to an extent unknown before because they have the money to buy them. I am sure that any of you who go around our towns and villages in the summer season must be struck with the enormous consumption of ice cream, and that is why our per capita consumption has increased 30 per cent. During that time the number of cows has increased by 7 per cent., but while the cows have only increased 7 per cent., the average yield per cow has increased by 33½ per cent. The average yield per cow in Canada ten years ago was something slightly over 2,800 pounds per year, and in ten years it has gained 1,000 pounds and now it is considerably over 3,800 pounds. Possibly last year's figures would have brought it up to 4,000 pounds. That means that dairymen who have been taking care of the cows have been paying close attention to the feeding and the breeding of the cows, and that means a lot of labor and work. Notwithstanding the fact that the rural population has fallen off, yet that rural population has taken care of the dairy business of the Province, and has increased the average production of the cows by a thousand pounds per year.

Although you are interested in this Convention as dairymen, you have also interests in other phases of agriculture, and everyone of these different phases of agriculture is being taken care of, and the people are doing well, and it is to the advantage of those who are in the business that they should increase the production and do better from year to year.

One would almost think, when they read in the papers last fall of the bumper crop of wheat in the Western Provinces and the large headlines we saw in the papers in regard to it, that we are doing very little in Ontario. We are glad that the people of the West had the best crop they ever had and that they were able to harvest it in such splendid condition because we all know what quality means in wheat in Western Canada. A farmer in Ontario who has a little 50 or 100 acre farm, might imagine himself smaller and smaller every day as he thought of this tremendous yield of wheat in Western Canada and of the thousands of cars that were being used to move it to the elevators. I had the pleasure of going out West this fall, and when we got past Dryden travelling between Fort

William and Winnipeg about six in the morning, every little while on the double track of the Canadian Pacific, great freight trains would pass us going east—40 cars in every train—filled with grain. I have not the figures for 1913, but the wheat crop of Canada for 1912 was valued at $125,000,000. In Ontario we grow from 20,000,000 to 24,000,000 bushels, depending on the season, and taking the value of that out of the $125,000,000 and what was grown in Eastern Provinces and British Columbia, you will have some idea of what was left to the Western Provinces. And the point I want to make is that while the wheat crop of the whole of Canada was in round numbers worth $125,000,000, the field crops of the Province of Ontario were worth $200,000,000. (Great applause). That seems almost incredible, but it is a fact; and that is not the whole story. I have already referred to the $40,000,000 worth of dairy products, $200,000,000 for our field crops, $25,000,000 for our orchards and vineyards—and we have not made a single reference to live stock, our cattle, sheep and hogs, horses and poultry. When we see the Province of Ontario on the map and then look at the great Western Provinces, some people are apt to think that we dwindle into insignificance, but our situation in Ontario is such, and our climatic conditions are of such a varied character, that we can grow enormous crops.

In the great clay belt in the Northern part of this Province, there will be thousands of farmers competing with the farmers of the Western Provinces in growing No. 1 hard wheat, before many years, and we will always have a home market in the Province of Ontario for our productions, and we will enjoy that home market for many years to come, and that is something that they do not have in any other Province in the Dominion. Secondly, we are in the position that no matter what line of agriculture we may be identified with, if we apply industry and perseverance and careful thought to our work, we are bound to make good success.

I read in the newspapers a short time ago of the great importations of mutton from Australia; one whole shipload was unloaded at Vancouver, but a considerable portion of that was sent to Seattle and the north-western part of the United States. The newspapers comment on a matter of that kind and say: "Why are not the farmers of Canada growing more sheep?" The farmer is just like any other class, he is not going to raise sheep for the fun of it or keep cows for the fun of it. The day is past when the farmer will engage in any line of agriculture that is not remunerative. Years ago there were a great number of sheep kept in the Province, but the people gradually gave it up for two reasons. One was the fact that they were up against ravages from dogs, and the other was that it did not pay. The tide is now turning, and the industry is moving onward in splendid shape. Some people think that there is great danger of Australia and New Zealand and the Argentine Republic flooding us with mutton. I saw some figures the other day which stated that there were 93,000,000 sheep in Australia, and that the exports are only 20 per cent. of their production. 20 per cent. is all that goes to the outside world, and only 12 per cent. of their cattle are exported, so that after all the higher values for farm produce is not confined to Ontario. It is world wide in its operation, and what has been going on in Canada and the great Republic to the south of us has been going on all over the world. Consequently while we have our home market developed by industrial activity, the industrial development of other countries in the world has been going on in the same way; so that although some years ago they were exporters, they are now becoming importers, and what we want to do in Ontario is to keep our

eyes steadfastly fixed on success. Whether you are a dairyman or a mixed farmer or making a specialty of live stock or fruit, all you have to do is to keep steadily on and take care that you produce nothing but the best and we are bound to have splendid results for many years.

Many of you no doubt take "The Farming World." That paper has been asking some questions of late with reference to different matters, and one was the views of farmers in regard to free wheat and free flour with the United States. Another question was the effect that the tariff of the United States was having on the dairy industry of the Province. I read the answers very closely, and I found that in almost every instance the dairymen say the tariff is not affecting their business to any great extent. I am glad of that. What I would say in reference to that is that we should simply take care of our own knitting and stand pat. In many sections large cheese factories have been erected. Some of these are co-operative factories owned by the farmers, others are owned by private individuals. A large expenditure of capital has been made, believing that the farmers would send their milk, and while there may be some advantage in switching off and sending the milk to other channels, we do not know how long that will last, and possibly after some of the factories have been swept out of existence, those who may have been getting a little more money for the time being, may find to their sorrow the new avenues closed to them, the factories gone, and that they were in a worse position than ever. (Applause).

I want to express my pleasure at being here and to congratulate those who have charge of this organization on the success they have attained, and I want to say that in every movement of the dairy industry or any other agency of agricultural activity, the membership of the Government, with which I have the honour to be identified, will, as they have in the past, do everything possible to assist and help you in your work. (Applause).

THE CHAIRMAN: I am sure we have been delighted with the address of the Minister of Agriculture. He has certainly demonstrated that this is the banner Province of the Dominion and we are justified in calling the western portion of it the dairymen's paradise.

ADDRESS.

HON. NELSON MONTEITH, STRATFORD.

Your Chairman has said that I possibly need no introduction to a Stratford audience. This is my home town, and I do not feel the slightest bit ashamed of it. We have with us on this occasion in this splendid centre of agriculture of which Stratford is the hub, the dairymen of Western Ontario, and this is an organization of which I feel extremely proud. I consider this is one of the great outstanding organizations, one of the co-operative organizations that has stood a longer time than any other co-operative association. The men engaged in this occupation are engaged in one of the most scientific callings of agriculture. I regret that the factories of Ontario are decreasing in numbers, especially in Western Ontario. The various uses to which milk is being put at the present time has to a large extent lessened the making of butter, and cheese for export Western Ontario was the home of co-operative cheese-making. Away back in the sixties, we find the beginning of the making of cheddar cheese in Ontario, and it has put millions and millions of dollars in the pockets of the

Ontario farmers. Eastern Ontario followed later, and they have built up an immense industry in the making of cheddar cheese. The figures I have been able to obtain show that Western Ontario produced 26,000,000 pounds of cheese and about 12,000,000 pounds of butter. That is what those in authority have been able to obtain, but that does not include the many thousands of pounds of butter manufactured by local producers, showing that Western Ontario has been doing exceedingly well.

According to the last figures, the county of Perth produced of agricultural products $7,000,000; that is a fairly good return for a county having about half a million acres. We believe there is a possibility in the future of gradually increasing that production.

When the Hon. Mr. Duff spoke—I was going to say disparagingly—of the 50 acre farm of Ontario as compared with the immense acreage of the West, I know he did not mean it in that way. He meant to say that we should not despise small things. We want to get the people out on the land. They have been gathering in the cities, and there are social reasons for this; and these social reasons will continue to draw the people to the urban centres unless we begin to look at this whole question from a different viewpoint. I will give you my idea of the social loadstone that draws the people to the centres of population. Farmers as a rule, when they have been fortunate in business, bring their capital into town and put it in the bank, but the banks do not lend it back to the farmers at a low rate of interest, but they lend it to large financial corporations and take their bonds, such as railway corporations or traction companies or power companies. If the farmer had been wise, instead of putting this money in the bank, he should have put it into a clay bank in the way of improving that clay bank, draining it and improving it in every possible way, so that its productiveness might be increased. That would have brought more people back on the land, and would have tended to make the land more productive, and would have given a better return and would have made life on the farm more attractive. This will come, but it is going to take years to bring it about. It has been truly said that there is going to be a reaction, and that the people will want to get back on the land; but it is going to be far more difficult to adjust them to that condition than it has been to get away from the land. Land values in Ontario are bound to advance because of the immense possibilities that the Hon. Mr. Duff has pointed out to you to-night, and it is going to be more difficult for a man with a small capital to get back on the land. We have been slow in availing ourselves of our possibilities as agriculturists. We have allowed the quality of our land to speak for itself, and we have been getting along fairly well; but there is plenty of room for improvement.

As one of those engaged in the dairy business in my own simple way, it gives me a great deal of pleasure to meet again with the men who are doing the work of building up one of the great branches of industry of this country. It seems to me that we have come to the position that we have to cater to local needs, and I believe that the price of cheese is bound to go still higher, and I think our dairymen are wise in maintaining their plants at a high state of efficiency. I know that with the splendid instructors you have, and with Mr. Herns at the head of them, you undoubtedly will have wise direction in whatever line you may proceed along. I am glad to have this opportunity of addressing you for a short time. I thank you.

PRIZE WINNERS, 1914.

ANNOUNCED BY MR. FRANK HERNS.

September White Cheese.

1. Geo. Empey, Newry.
2. D. Menzies, Listowel.
3. Mrs. O. Cuckow, Mt. Elgin (won on flavor).
4. H. E. Donnelly, Straffordville.
5. W. T. Oliver, Donegal.

September Colored Cheese.

1. Geo. Empey, Newry.
2. H. E. Donnelly, Straffordville.
3. H. Youn, Molesworth.
4. D. Menzies, Listowel (tie).
5. John Cuthbertson, Sebringville (tie).

October White Cheese.

1. Mrs. O. Cuckow, Mt. Elgin.
2. J. K. Brown, Ethel.
3. Wm. Morse, Trowbridge (won on flavor).
4. H. Youn, Molesworth.
5. C. J. Donnelly, Scottsville.

October Colored Cheese.

1. J. K. Brown, Ethel.
2. L. H. Schneider, Gad's Hill.
3. Geo. Empey, Newry.
4. Wm. Loughin, Evelyn.
5. Mrs. O. Cuckow, Mt. Elgin, and H. Youn, Molesworth (tie).

Winter 56-lb. Box Creamery Butter.

1. E. M. Johnston, Innerkip.
2. John Cuthbertson, Sebringville (tie).
3. C. Klockman, Stratford (tie).
4. Jno. R. Almont, Silverdale (won on flavor).
5. Hugh W. Patrick, St. Thomas.

Twenty 1-lb. Creamery Prints.

1. Jno. Cuthbertson, Sebringville.
2. Guelph Creamery Co., Guelph.
3. R. C. Bothwell, Hickson.
4. J. E. Wilson, Forest.
5. Jno. R. Almont, Silverdale (won on flavor).

56-lb. Box Creamery Butter.

1. John H. Scott, Exeter.
2. James E. Wilson, Forest (tie).
3. Hugh W. Patrick, St. Thomas (tie).
4. A. J. Muxworthy, Thedford.
5. I. C. Goodhand, Corbett.

Three September Stilton Cheese (10 lbs.).

1. H. Youn, Molesworth.
2. C. Donnelly, Scottsville.
3. John Cuthbertson, Sebringville (tie).
4. Geo. Empey, Newry (tie).
5. H. Donnelly, Straffordville.

Two September Flat Cheese.

1. C. J. Donnelly, Scottsville.
2. H. Donnelly, Straffordville (won on flavor).
3. Mrs. O. Cuckow, Mt. Elgin.
4. Edwin Phelps, Birnam.
5. J. Cuthbertson, Sebringville (won on flavor).

SPECIAL PRIZES.

By the Heller & Merz Co., 22 Cliff Street, New York—C. Richardson & Co., St. Mary's, Ont., Canadian Agents for Alderney Butter Color: $10.00 in cash—To the Buttermaker securing the highest score on butter in Class III. or IV., colored with Alderney Butter Color.—Jno. Cuthbertson, Sebringville.

$5.00 in Cash—To the Buttermaker securing the second highest score on butter in Class III. or IV., colored with Alderney Butter Color.—Guelph Creamery Co., Guelph.

By C. Richardson & Co., St. Mary's: $10.00 in cash—To the Buttermaker securing the highest score on butter in Class III. or IV., colored with Alderney Butter Color.—Jno. Cuthbertson, Sebringville.

$5.00 in cash—To the Buttermaker securing the second highest score on butter in Class III. or IV., colored with Alderney Butter Color.—Guelph Creamery Co., Guelph.

Note.—The winners of the Heller & Merz Co., and C. Richardson & Co.'s special prizes will, if required, be expected to take an affidavit stating that they have been continuous users of Alderney Butter Color during the past twelve months.

By the R. M. Ballantyne, Limited, Stratford, Ont., for D. H. Burrell & Co., Little Falls, N.Y., manufacturers of Chr. Hansen's Rennet Extract and Color: One case of Hansen's Rennet Extract—To the Cheesemaker securing the highest score on September White Cheese, Class I., Section 1.—Geo. Empey, Newry.

One case of Hansen's Cheese Color—to the Cheesemaker securing the highest score on October Colored Cheese, Class II., Section 2.—L. R. Schneider, Gad's Hill.

By C. H. Slawson & Co., Ingersoll, for D. H. Burrell & Co., Little Falls, N.Y., manufacturers of Chr. Hansen's Rennet Extract and Color: One case of Hansen's Cheese Color—To the Cheesemaker securing the highest score on September Colored Cheese, Class I., Section 2.—Geo. Empey, Newry.

One case of Hansen's Rennet Extract—To the Cheesemaker securing the highest score on October White Cheese, Class II., Section 1.—Mrs. O. Cuckow, Mt. Elgin.

Note.—All cheese competing for the special prizes offered by the R. M. Ballantyne, Limited, and C. H. Slawson & Co., must be made with Hansen's Extract and Color. No special cheese required.

By the J. B. Ford Co., Wyandotte, Mich., manufacturers of Dairymen's Cleaner and Cleanser: One No. 1 Premoette Camera, 12 Exposures—To the Cheesemaker who is a regular user of Wyandotte Dairymen's Cleaner and Cleanser, having the best finished and most stylish-looking cheese on exhibition—C. J. Donnelly, Scottsville.

One No. 1 Premoette Camera, 12 Exposures—To the Buttermaker who is a regular user of Wyandotte Dairymen's Cleaner and Cleanser, having the neatest and most attractive exhibit of butter.—Jno. Cuthbertson, Sebringville.

Note.—All exhibits (except Stilton and flat Cheese) are eligible for these two special prizes.

By the Canadian Salt Co., Windsor, Ont., E. G. Henderson, Manager: $15.00 in cash—To the Cheesemaker securing the highest score on cheese (except flats and Stiltons) exhibited in any class.—Geo. Empey, Newry.

$10.00 in cash—To the Cheesemaker securing the second highest score on cheese (except flats and Stiltons) exhibited in any class.—Tie: Geo. Empey, Newry, and D. Menzies, Listowel.

$15.00 in cash—To the Buttermaker securing the highest score on butter exhibited in any class.—Jno. Cuthbertson, Sebringville.

$10.00 in cash—To the Buttermaker securing the second highest score on butter exhibited in any class.—Guelph Creamery Co.

By the Western Salt Co., Mooretown, Ont., N. A. Leach, Manager: One barrel Purity Cheese Salt—To the Cheesemaker securing the highest score on September White Cheese, Class I., Section 1.—Geo. Empey, Newry.

One barrel of Purity Cheese Salt—To the Cheesemaker securing the highest score on October Colored Cheese, Class II., Section 2.—J. K. Brown, Ethel.

One barrel Purity Cheese Salt—To the Cheesemaker securing the highest score on fifty-six pound box Creamery Butter, Classes III. and IV., Section 1.—J. H. Scott, Exeter.

One barrel Purity Dairy Salt—To the Buttermaker securing the highest score on twenty one-pound Creamery Prints, Class III., Section 2.—Jno. Cuthbertson, Sebringville.

Note.—No special butter or cheese required.

By the Marshall Dairy Laboratory, Madison, Wis.—Robt. Johnson, Woodstock, Ont., Canadian Agent for Marshall's Rennet and Color: A handsome Gold Watch, value $25.00—To the Cheesemaker securing the highest score on cheese (except flats and Stiltons) made with Marshall's Rennet.—D. Menzies, Listowel.

Note.—No special cheese required.

By the DeLaval Dairy Supply Company, Limited, Montreal, Canada: Silver Cup—To the Buttermaker securing the highest score on butter made during the month of October from collected cream, Class IV., Section 1.—Jno. H. Scott, Exeter.

Note.—No special butter required.

By the W. A. Drummond & Co., Toronto: $10.00 in cash—To the Buttermaker securing the highest score on 56-lb. Box Butter made from collected cream pasteurized and properly ripened, Class III., Section 1, Class IV., Section I.—Jno. H. Scott, Exeter.

Note.—No special butter required.

By Wells Richardson Co.—Sales Agents, DeLaval Dairy Supply Co. of Peterboro: A Fountain Pen. To each Buttermaker securing a score over 93 points on butter exhibited in Class III. or IV., made with Wells Richardson's Butter Color.

By W. J. McCulley, Grocer, Stratford: $5.00 in gold—To the Cheesemaker who has been manager of a cheese factory for the shortest length of time securing the highest score on cheese exhibited in any class.—Norval Bell, Pine River.

By the Imperial Bank of Canada: A Silver Cup—To become the property of the Cheesemaker securing the highest total score, three times, or twice in succession, on two cheese; one cheese either white or colored, exhibited in Class I., and one cheese either white or colored, exhibited in Class II. In awarding this cup the scores of the two cheese securing the highest score in Classes I. and II. (belonging to the same exhibitor) will be added. In case of a tie, settlement is to be left with the judges. Won in 1910 by J. E. Stedelbauer; won in 1911 by R. A. Thompson; won in 1912 by D. Menzies; won in 1913 by R. E. Hastings.—Mrs. O. Cuckow, Mt. Elgin.

Note.—No special cheese required.

Cheese Buyer's Trophy: Challenge Cup, valued at $150—To become the property of the exhibitor of cheese (except flat and Stiltons) at the Winter Dairy Exhibition who shall receive the highest score three times, or twice in succession. Won in 1903 by Frank Boyes; won in 1904 by R. H. Green; won in 1905 by O. Schweitzefr; won in 1906 by J. Patton; won in 1907 by J. E. Stedelbauer; won in 1908 by Mary Morrison; won in 1909 by J. T. Donnelly; won in 1910 by Mary Morrison; won in 1911 by B. F. Howes; won in 1912 by D. Menzies; won in 1913 by R. E. Hastings.—Geo. Empey, Newry.

Note.—Cheese without a bandage will be considered unfinished, and shall be scored off for finish accordingly.

Cheese on exhibition may be paraffined.

All one-pound print butter on exhibition must be wrapped in plain wrappers.

All October butter must be sent to London Cold Storage.

REPORT OF CHIEF DAIRY INSTRUCTOR AND SANITARY INSPECTOR FOR WESTERN ONTARIO, 1913.

Frank Herns, London.

I beg to present my Seventh Annual Report as Chief Dairy Instructor and Sanitary Inspector. During the past season five cheese and three creamery instructors were employed. The number of creameries having increased, a third Creamery Group was arranged. Mr. J. B. Smith took charge of this new Creamery Group while Mr. R. H. Green resigned as Cheese Instructor. The usual Short Course at the O.A.C., Guelph, was attended by the instructors and much appreciated.

Cheese Instruction Report.

Cheese Factories.—153 cheese factories were visited by the cheese instructors, 7 of which were combined cheese and butter factories. 1 condensed milk factory, 2 milk powder factories, and 3 casein factories. These factories received 396 full day visits and 397 call visits. Total 793 visits.

Whey Butter.—4 factories made whey butter, 1 less than last year.

Casein.—6 factories (3 creameries) made casein and shipped cream, 3 less than last year.

Milk Supply.—10,031 patrons furnished milk to the cheese factories, (patrons for condensed and powdered milk factories not included). The estimated average per cent. of fat in the milk for the season was 3.43 per cent.

Loss in Whey.—The estimated loss of fat in the whey for season was .215 per cent.

Patrons Visited.—192 patrons were visited. 1,097 rusty cans were discarded. discarded.

Pay by Test.—25 factories paid for milk by the test.

Cool Curing Room.—13 factories have ice cool curing room.

INSTRUCTION WORK 1913.—CHEESE.

Instruction and Group.	Factories visited.	Combined Cheese and Butter.	Butter only.	Condense .	Casein.	Powdered Milk.	No. of Patrons—Milk only.	No. of full day visits.	No. of call visits.	No. of Patrons visited.	No. of curd tests.	No. of samples tainted.	No. of lactometer tests.	No. of Babcock tests for adulteration.	No. of new cans bought.	Factories making "Whey Butter."	Factories paying by test.	Factories having cool curing room.	Factories pasteurizing whey.	Whey fed at factory.	Average per cent. fat in milk for season.	Average per cent. fat lost on whey.	Estimated expenditure for improvements.
																							$ c.
LISTOWEL—																							
R. A. Thompson	32	1	0	0	0	0	2,195	93	95	11	70	19	5,980	81	58	0	6	3	15	3	3.325	....	4,660 00
STRATFORD—																							
G. M. McKenzie	29	0	0	0	1	0	2,252	93	78	29	48	42	5,797	416	306	0	13	7	19	5	3.46	.217	5,630 00
INGERSOLL & WOODSTOCK																							
A. E. Gracey	35	2	0	1	1	1	1,648	68	98	39	17	13	4,163	451	268	2	6	2	20	0	3.4	.227	3,390 00
SIMCOE & BRANTFORD—																							
Geo. Travis.....	26	0	0	0	1	0	1,921	53	68	68	20	20	3,058	548	212	2	0	1	11	2	3.48	.23	2,090 00
LONDON—																							
T. F. Boyes	31	4	0	0	0	1	2,015	89	58	45	47	41	4,044	470	253	0	0	0	14	1	3.46	.205	3,805 00
Totals and Averages ..	153	7	0	1	*3	2	†10,031	396	397	192	202	135	24,042	1,966	1,097	4	25	13	79	11	3.43	.215	19,575 00

*The Creamery instructors visited three other Casein Factories.
†Condensed and Powdered Milk Patrons not included.

Pasteurize the Whey.—80, or about 70 per cent., of the factories pasteurized the whey and 11 fed all or a portion of the whey at the factories.

Sanitary Conditions.—124 factories are reported kept in first class sanitary condition. The others are only fair.

Quantity of Cheese, 1912.—Western Ontario produced in 1912, 27,734,876 lbs. of cheese. The cheese factories also produced during the winter months 1,028,463 lbs. of butter. This is an increase in the cheese output over 1911 of 133,894 lbs. The output for 1913 will be considerably less as the instructors report 102 factories making less cheese than in 1912. The figures for 1913 cannot be obtained until about June next.

Average Yield and Price, 1912.—The average yield (lbs. of milk to make a lb. of cheese) in 1912 was 11.05. The average net price per lb. of cheese to patrons for 1912 was 13.11 cents. The early part of 1913 was rather discouraging in regard to price, but after the month of May the price advanced and remained fairly uniform for the balance of the season.

Quality of Cheese.—Outside of a few factories the quality of the cheese was very good. The period of warm weather was comparatively short and the patrons are certainly improving in the methods of caring for the milk.

Annual and District Meetings.—From November 1st, 1912, to October 31st, 1913, 97 annual and other meetings of cheese factory and creamery patrons were attended by the instructors and myself; total attendance, 5,414.

Prosecutions.—15 patrons pleaded guilty before police magistrates to delivering deteriorated milk to cheese factories. Fines from $10 to $30 were imposed. This number is 39 less than last year, which shows that the offence of deteriorating milk is rapidly decreasing under the system followed for the past seven years.

Expenditure for Improvements.—$19,575 was expended on general improvements.

Payment by Test.

For several years there has been considerable agitation in connection with the payment for milk by the test.

Following a resolution passed at the annual district meeting held in the fall of 1912 the instructors were requested to secure, if possible, the opinion of factory owners and managers regarding the advisability of taking a ballot of the patrons of cheese factories in Western Ontario to secure their views relative to the payment for milk by the test.

The instructors report as follows: 25 factories are unfavorable to having such a ballot taken; 26 did not care to express any opinion, others seemed to favor the proposition. It has not yet, however, been decided to take any action on this point.

Annual District Meeting.

This meeting, which is held each year during the time of the Winter Fair, was exceptionally well attended and many important dairy topics were discussed. A full report will no doubt be published. The report of this meeting adds considerable interest to the regular annual report of the Dairymen's Associations. This was done last year and was much appreciated.

Creamery Instruction Report, 1913.

The number of creameries has increased from 58 in 1907 to 123 in 1913. It was found impossible for two creamery instructors to successfully visit this number of creameries. The groups were therefore rearranged, and a third creamery instructor employed. We believe this plan has given general satisfaction. It is hoped that by reducing the number of creameries each instructor has to visit he will be in a position next year to visit a larger number of cream producers.

Quantity of Butter, 1912.—Western Ontario produced 12,811,267 lbs. of butter at the creameries in 1912 and 1,028,463 lbs. at the cheese factories during the winter months, making a total production of butter of 13,839,730 lbs. This is practically double the production of 1907.

Patrons and Cream.—29,081 patrons supplied milk and cream to the creameries. The average per cent. of fat in the cream for season was 27 per cent.

Creamery Visits.—296 full day visits and 79 call visits were made by the creamery instructors making a total of 376 visits to the creameries.

Moisture.—470 tests for moisture were made. The average per cent. of moisture was 14.16 per cent. A proportion of these tests were made at each creamery. 21 samples contained over 16 per cent. moisture. These samples were taken from 15 creameries.

Salt.—428 tests were made for salt in the butter. The average amount of salt used was 5.59 per cent., and the average amount of salt left in the butter was 3.35 per cent.

How Cream is Tested.—49 creameries now use the scales for weighing cream samples. 4 creameries only use the oil test.

Pasteurization.—17 creameries pasteurize the cream, part of these only a portion of the time.

Storages.—The average temperature of the creamery storages was 46.8 deg.

Coolers and Culture.—49 creameries are using coolers for cooling cream and 12 creameries use a pure culture.

Making Casein and Shipping Cream.—3 creameries ship cream and make casein from the skim milk.

Sewage Disposal.—Several creameries put in new septic tanks for handling the creamery wash water. Where these have been properly installed they are giving good satisfaction. It is well to point out here that the filter bed in connection with the septic tank is usually necessary to get proper results. In sandy or gravelly land a sufficient number of tile may be laid to handle all the water which comes from the tank, but where clay ground is encountered a filter bed must be constructed.

Expenditure.—12 new creameries were built at an estimated cost of $60,943.00 and $35,042.00 was expended in general improvements making a total expenditure of $95,985.00.

Importance of Quick Cooling of Cream.

During the warm weather when cream arrives at the creamery around 70 degrees and sometimes higher in temperature, the importance of having proper facilities for quickly cooling the cream cannot be too strongly emphasized. The cream is in some cases over-ripe, and although the ripening process may continue

SUMMARY OF CREAMERY REPORT, 1913.

	Instructors.			
	D. McMillan.	M. Robertson	J. B. Smith.	Total
Creameries visited	43	41	39	123
No. of patrons sending cream	13,553	8,677	6,851	29,081
Lbs. of butter made, 1912				12,811,267
Lbs. gain over 1911				1,501,267
No. full day visits	108	78	110	296
No. call visits	15	51	13	79
No. patrons visited	17	60	76	153
Average per cent. fat in cream	26.4	27.46	27.17	27
No. tests made for moisture	207	142	121	470
Average per cent. moisture in butter	14.40	14.2	13.9	14.16
No. samples showing over 16 per cent. moisture	12	8	1	21
No. creameries these samples taken from	9	5	1	15
No. of tests made for salt in butter	174	140	114	428
Average per cent. salt used in butter	5.12	5.6	6.07	5.59
Average per cent. salt left in butter	3.04	3.6	3.43	3.35
No. of creameries cream collecting	42	32	36	110
No. of creameries, cream and separators	1	0	0	1
No. of creameries, separator	0	9	2	11
No. of creameries using Babcock Tests	39	41	39	119
No. of creameries using Oil Tests	4	0	0	4
No. of creameries using scales (metric)	24	11	14	49
No. of creameries using Pipette	14	30	25	69
No. of creameries using box churn	0	0	0	0
No. of creameries using cooler	19	15	15	49
No. of creameries using Pasteurizers	9	5	3	17
No. of creameries using culture	4	6	2	12
No. of creameries using large cans collecting	21	18	5	44
No. of creameries using jacketted cans collecting cream	0	2	1	3
No. of creameries using individual cans collecting cream	7	17	23	47
No. of creameries using small cans collecting cream	2	1	0	3
No. of creameries using cream tanks collecting cream	12	3	2	17
No. of creameries having poor water supply	1	3	2	6
No. of creameries having poor drainage	5	6	9	20
No. of creameries collecting cream twice a week	36	22	16	74
No. of creameries collecting cream three times a week	5	8	6	19
No. of creameries collecting cream every day	0	8	6	14
No. of creameries making casein and shipping cream	0	2	1	3
Average temperature of storage	45.2	50.3	45	46.8
Expenditure { New creameries	(3) $16,000	(5) $27,443	(4) $17,500	(12) $60,943
Expenditure { General improvements	13,696	7,596	13,750	35,042
Total				$95,985 00

up to the time of churning, immediate chilling tends to check the development of acid which means butter of better keeping quality. In some cases it takes so long to cool the cream that it does not reach churning temperature before it is put in the churn the following morning. If the fat has not had time to solidify, the result is weak bodied butter and a heavy loss of fat in the buttermilk. Under our cream collecting system the cream often arrives at the creamery late in the afternoon, and the buttermaker can hardly be expected to remain in the creamery half of the night stirring cream in order to get it properly cooled. In view of these facts some system of quick cooling to check the acid would be an advantage. If the cream is pasteurized a cooling equipment is a necessity.

Forty-nine creameries are provided with coolers, but a considerable number still depend on vat cooling. As the number of creameries has increased, and the quantity of butter doubled in the past few years, it is to be expected that some of our makers have not yet realized the importance of quick cooling as a factor in good butter making.

If the cream is left at too high a temperature during the night (especially if the flavor is not very good), and has not had long enough time at low temperature before churning, the butter, although it may appear good when churned, yet as a result of the excess fermentation in the cream and churning at too high a temperature butter of poor keeping quality may be expected.

With a view of getting some information in regard to cost of cooling cream, some experiments were conducted at one of the creameries last August, a summary of which is given herewith.

Cooling With Brine (*Circular Cooler*).

In four experiments 6,490 lbs. of cream was used, or an average of 1,622 lbs. of cream for each experiment. Cream cooled on an average from 77 to 49 degrees in 33 minutes, at the rate of 3,125 lbs. per hour, using 387 lbs. of ice and 55 lbs. of salt. Cost of ice, $.45; cost of salt, $.22; total cost of ice and salt, 67 cents. Degrees of temperature cooled, 28. Cost of cooling 100 lbs. of cream one degree .0015 cent.

Note.—On Aug. 12th room temperature at 3 p.m., 70 deg.; following morning, 70 deg. Cream cooled at 3 p.m. to 46 deg. and allowed to stand in open cream vats for 17½ hours, at the end of which time temperature of cream had risen to only 56 deg. Per cent. of fat in the cream, 28.

On August 13th room temperature at 3 p.m., 76 deg. Cream cooled at 3 p.m. to 54 deg. Water at 54 degrees was at this time put around the vat and cream allowed to stand for 15 hours. At the end of this time the temperature of the cream had risen to 59 deg. This would indicate that by cooling the cream to low temperature (46 deg.) the temperature will not rise much above churning before morning.

Cooling with Water and Ice (*Circular cooler*).

In three experiments 5.050 lbs. of cream were used or an average of 1,683 lbs. for each experiment. Cream cooled on an average from 71 deg. to 51 deg. in 42 minutes, at the rate of 2,477 lbs. per hour, using 316 lbs. of ice. Cost of ice, 38 cts. Degrees of temperature cooled, 21; cost of cooling 100 lbs. of cream one degree, .0016 cents.

Note.—On August 8th room temperature at 3 p.m., 80 deg. Cream was cooled at this time to 50 degrees and allowed to stand in vat for about 3 hours. The temperature had then risen to 55 degrees. It was then run in churn to get vat room and remained until following morning when temperature had risen to 58 degrees. Per cent. of fat in cream, 27.5.

Cooled with Water (*Circular Cooler.*)

In one experiment 1,600 lbs. of cream cooled from 80 to 60 degrees in 36 minutes at the rate of 2,624 lbs. per hour: degrees cooled, 20; temperature of water, 50.

Note.—July 3rd room temperature, 80 degrees. After cream was all in vat ice and water were put around vats to cool cream from 60 deg. to churning temperature. Cost of ice not known.

Cooled With Water and Ice Around Vats.

In one experiment 1,700 lbs. of cream were cooled from 72 to 55 degrees in 2 hours and 35 minutes, using 390 lbs. of ice. Cost of ice 47 cts.; degrees cream cooled, 17; temperature of water 52 deg. Cost of cooling 100 lbs. of cream one degree .0015 cents.

Note.—On Aug. 18th room temperature 82 deg. After adding ice, cream was stirred continuously for one hour and 30 minutes. This reduced the temperature to 60 degrees. Cream was then allowed to stand for 40 minutes. During this period temperature was reduced one deg. Cream was then again stirred continuously for one hour and 15 min. Temperature was then 55 deg.

Note.—Cost of ice and salt used in these experiments was 12 cents and 40 cents per 100 lbs. respectively.

Conclusions.

1. According to these experiments it cost with the brine system (using circular cooler) to cool 100 lbs. of cream one degree .0015 cents.

2. It cost with water and ice (using circular cooler) to cool 100 lbs. of cream one degree, .00104 cents.

3. It cost with water and ice around vats to cool 100 lbs. of cream one degree. .0015 cents.

4. It cost equally as much to cool cream with water and ice around the vats as it did with the brine system, and more than with ice and water (using a circular cooler), and it required 2 hours and 35 minutes continuous stirring to cool the cream, compared with very quick cooling with either of the other systems. Practically no time was lost in stirring the cream, when the brine system or water and ice system was used.

5. When plenty of cold water is available the temperature of the cream can be lowered materially with the water and cooler but ice is also likely to be required around the vat.

Note.—Cost of ice and salt considered only.

Further work along this line will be attempted in 1914 with pasteurized cream. No knowledge was obtained with regard to the effect of brine on the inside of the circular cooler.

I have to thank Mr. McMillan for carrying out these experiments. I also wish to thank Messrs. Dempsey and Holmes for allowing us to do the work in their creamery, and also for the kindly assistance which they gave us. I wish also to thank the instructors, the factorymen and everyone connected with the dairy industry for their hearty co-operation in the dairy work.

MR. HERNS: In 1907 there were 205 cheese factories and 58 creameries in Western Ontario. In 1913 there were 153 cheese factories and 123 creameries. This makes practically the same total number of factories in Western Ontario, but about 50 factories are now making butter instead of cheese. The total number of factories has not decreased.

DEFECTS OF OUR CHEESE WHEN IT GOES INTO STORAGE AND WHEN IT COMES OUT.

ROBERT JOHNSTON, WOODSTOCK.

The Secretary asked me a few months ago to make a few notes on defects in cheese as they are delivered to the storage and the defects that develop while they are being carried in cold storage. I have made a few notes, and I hope they will be of interest.

The greater quantity of cheese manufactured in Western Ontario, instead of being shipped direct from the factory to England, as was the case a few years ago, is now concentrated at the cold storage warehouses of the buyers, and is shipped from there to the different shipping points. This enables the buyers to supervise the inward shipment also the outgoing. Let me call your attention to defects I find as the cheese are delivered at the warehouse. You know that when cheese are sold all sales are made f.o.b. shipping points. Now in what conditions do we find the cheese when delivered? Whereas the greater number of factory managers see that the cheese are loaded in a proper manner, others evidently do not care how they reach their destination, for we find them rolled in on their sides anyway at all to get rid of them, and the patrons who deliver the cheese feel their responsibility ended as soon as they have unloaded their waggons. I do not see why the factory owners should not be held responsible for any damage sustained by careless loading. But the greater damage is to the boxes, as we often find in a shipment of one hundred boxes twenty-five per cent. broken. I think the factory should pay for all damage when carelessness is proved in loading cheese.

Another defect is that the makers are careless in boxing their cheese. We receive cheese with boxes one or two inches short for cheese, and in other cases when the boxes are as much too high. In the case of high boxes it is easier remedied, but why the maker should expect the buyer to trim his boxes, I cannot say; but we find this the case in many instances, and as for myself I will refuse to receive cheese next season that are too large for the boxes.

I will say a few words about the quality of the boxes. In many instances they are unfit for shipping purposes, being made from green timber and poorly made, and the consequence is on arrival at warehouse the bottoms are out and the sides split. The cheese should be placed in good boxes, and this should be insisted on by the buyers. As the bulk of the cheese received by the buyers in this section is paraffined, we find many defects and damage to the cheese before shipment, such as damage by rats or mice or bad finish, which are not always discovered when through

shipments are made from the factories. In the case of cheese damaged in the manner stated a fair allowance should be made to cover loss to the buyer.

I also find in cheese of May and June make that are paraffined, that after carrying for a few months there is a tendency to bitterness, caused by excessive moisture and lack of salt. This would probably not be the case if the cheese were held in the factories until they are ten days old before shipment.

In summing up the defects, I may say that poor boxes, careless boxing, careless shipping, light salting in the early part of the season, and the indifference of the makers to cure the October and November cheese are matters that should be brought before every maker of the Dairymen's Association of Western Ontario. It should be the pride of every maker and factoryman to see that his product should go on the market as nearly perfect as possible.

My paper has been short and if there is any discussion I will be pleased to reply. I do not know whose fault it is that our boxes are in such poor condition. I suppose it is due chiefly to the scarcity of timber. I had a shipment the other day, and only two boxes in the lot were perfect. In some cases the boxes dry up to such an extent after they are delivered that you can pick up a box and the cheese will remain on the floor. We have to keep a man busy coopering boxes and these things all cost money. I never was on the other side of the water to see how they arrive in the old country, but we have complaints from the west as to broken boxes. We see that they are packed in the cars so as to arrive in the best possible condition. We will either have to be supplied with better boxes or secure a different kind of box. The cheese-maker says the price of the boxes is too high, and the box manufacturer says he is not getting enough. I think the patrons will have to supply the boxes.

THE CHAIRMAN: I think Mr. Johnston omitted the most serious defect of all when cheese go into cold storage, and that is the price. I do not think many makers have an idea that 25 per cent. of the boxes are broken.

MR. JOHNSTON: They should take a trip to the warehouses where the cheese are unloaded. Four or five years ago they made a much better box. We get good boxes from some sections, and I do not know that they cost very much more than a poor box. I do not know how they overcome the difficulty of poor boxes in the eastern portion of the Province. It is certainly a great source of trouble with us.

MR. R. M. BALLANTYNE: In New Zealand they do not use a box, they put up the cheese in crates, and there are two cheese in each package. These New Zealand packages arrive in almost perfect condition. They require two men to handle them and for that reason they are handled more carefully. One of the greatest losses we have in Montreal is from wet ends of cheese, the cheese get soft on the ends. That is caused by their not being properly cured before they are put into cold storage.

MR. JOHNSTON: We have had very little loss from wet ends, the soft ends we have had have been attributed to wet boxes.

MR. STEINHOFF: I think the point raised by Mr. Johnston is a very important one. We are in a state of evolution as far as the selling of our cheese is concerned. I think it is important that we should give attention to this matter at the present time. We are handling more cheese for the local trade than ever before, and this year I have had cheese refused in several cases because the package was broken. Shipping cheese in small shipments they are more exposed, and are more apt to be damaged than when they are exported. When they are exported they are handled by people who are accustomed to handling them. But when they

are shipped locally I think they require a stronger box, and this is an important matter and one that requires our serious consideration.

MR. JOHNSTON: I think that would also apply to the cheese we are shipping to the West. We could not use the New Zealand package for local trade. Ninety per cent. of the cheese I handle is for local trade. As you say, there is an evolution going on in the cheese trade, and it may be the same as it was in the United States, and we may have to make them in smaller packages. For the smaller packages we could use paperboard or wood fibre, but the ordinary paper box would not do for our export cheese.

MR. STEINHOFF: Have these boxes made of wood fibre been found to have sufficient strength for the smaller makes of cheese?

MR. JOHNSTON: It does not take a very heavy box for a 20 lb. cheese. For a small package the wood fibre may replace the wooden box, and for export I suppose we might adopt the New Zealand box, but we do not know whether we are going to sell our cheese on the local market or export them when we buy them.

MR. J. N. PAGET: This cheese box question is one that should be looked into very closely. The trouble at the present time is that the box manufacturers are very independent and the demand is greater than they seem to be able to supply. During the past few years I have practically had to take what they gave me or go without. Several of the box manufacturers that I had been getting my boxes from have gone out of business, and the work of making boxes is confined to a very few, and when I complain they tell me that it is impossible to get timber of sufficient quality to make a really good box. I have been impressed with what Mr. Ballantyne has said in regard to the New Zealand crate, and I have been wondering if we could not adopt it instead of taking what we are now getting. I do not think the paper box would be satisfactory, especially for the export trade. I would like to ask Mr. Ballantyne how the cost of the New Zealand crate carrying two cheese would compare with the box we are using at the present time?

MR. BALLANTYNE: I do not know what they cost in New Zealand. The Canadian box costs about 20c. delivered at the factory, and the cost of the New Zealand crate in Canada would be about 30c. There is only one real objection to the New Zealand box, and that is the difficulty of weighing the cheese.

MR. PAGET: That would be up to the buyer. I have had more difficulty lately in securing suitable boxes than I have had in 25 years. They have told me that they had orders for more boxes than they could supply, and I would have to take what they gave me and if I was not satisfied I could go elsewhere. I have been told that by three different box manufacturers. I think that if we adopted a crate instead of the box, and the box manufacturer wanted to stay in the business, he would not be quite independent; and if we got better satisfaction from the crate than the box I have no doubt we would use them altogether. I think it is a question that the Association should look into.

MR. BALLANTYNE: They have timber large enough in New Zealand to make the heads all in one piece, but in Canada we would not be able to do that and the heads would have to be nailed together.

MR. JOHNSTON: I do not see any difference as far as the quantity of timber is concerned in this New Zealand crate than there is in our own box.

MR. HERNS: Is there a partition in that crate?

MR. JOHNSTON: Yes, there is a partition in the centre and the crate is nailed together.

DEFECTS IN OUR BUTTER WHEN IT GOES INTO STORAGE AND WHEN IT COMES OUT.

I. W. Steinhoff, Stratford.

Let me first express the pleasure which I feel in having the privilege of meeting the members of this Convention, and discussing questions having for their object the improvement of the dairy products of Western Ontario.

It is indeed a great pleasure to meet all the cheese and butter makers and old associates. The majority of you know, that during recent years I have not been so closely associated with the work of this Association as formerly; but although that is the case I have never swerved one iota in my support of what I conceived to be the best interest of dairying and of this Association.

You will note that I am to discuss the subject of "Defects in our Butter when it Goes Into Storage, and when it Comes Out." I did not frame the wording of this subject, but I infer that what is designed to be brought out more particularly is the merits or faults of Western Ontario creamery butter, and its keeping quality during a period in storage.

These points can only be treated in a comparative way, for the reasons that the changes that Western Ontario or any other creamery butter will undergo in storage largely depend upon the condition of the storage in which it is placed, as to temperature and purity and circulation of the air, and the length of time carried.

In a general way, my observations would indicate that the quality of Western Ontario creamery butter after a period of say, five to seven months in storage, compared with its condition when going into storage, will compare favorably with any butter with which I am acquainted.

The changes that more commonly develop during storage may be termed, stale, strong or aged, rancid, fishy, or tallowy flavors. I have never known tallowy flavor develop where butter was held at a low temperature, but have seen some very bad cases of fairly large blocks of butter when held for an extended period at a temperature around freezing point. This flavor is very nauseous in butter, and, in the cases I refer to, depreciated its value to the extent of five to eight cents per pound. Butter of this character will later lose its color, turning white like tallow. Fishy flavor is one of the most common in storage butter, and must come from some local cause, such as poor or contaminated salt, bacteria in the room or from the water in which it is washed, as I have clearly demonstrated that it is characteristic of the butter from certain creameries, in both Western and Eastern Ontario to develop fishy flavor one year after another, if placed in storage.

I have the evidence of placing the butter of one of the largest and best creameries in Western Ontario turning out uniformly fine butter, while fresh, but when placed in storage three to five years in succession, it has invariably developed a fishy flavor. I am interested in the welfare of this creamery, and trust we shall be able to locate the cause.

In a general way, Western Ontario creamery butter is of a waxy heavy body, and the butter holds its condition fairly well during storage. It is not, however, in the keeping quality of Western Ontario creamery butter that we discover the defects which make the difference in your butter, compared with the quality of butters with which you have to compete, both in markets and upon exhibition. It has been my duty for a number of years to take part in placing the prizes upon butter at the National Exhibition, Toronto, and it is not a pleasure to see the leading prizes go continuously to the East. This year both at Toronto and at

Ottawa, the young Province of Alberta played a brilliant part; and the most embarrassing feature is that Western Ontario seems to have become contented to allow this to continue year after year right at their own door. Is this as it should be? Is there some natural condition, such as climate, water, breed of cows, or any other impediment that makes it impossible to produce as fine butter as the other parts of Canada referred to. I think all truly acquainted with the facts will agree that there are no natural impediments against Western Ontario, and that the conditions causing the difference are all controllable, and in the hands of the producers and handlers of the cream before it reaches the creamery. The most unfortunate thing is the wrong start that was made in the gathered cream system in the beginning in Western Ontario, and a bad habit once formed is hard to get rid of. Improvements have been made, but in many localities the cream is still poorly handled at the farm, and then left too long at the farm before being gathered. In my judgment the most common defects found in a portion of Western Ontario creamery butter when going into storage are more particularly two; viz; poor flavor; and coarseness of texture.

This flavor may be termed an old or sour cream flavor, and combined with the heavy body and generally heavy salt, constitute its coarseness. Other defects are poor boxes, very poor finish on top or no finish at all, and very un-uniform weights. The best lesson upon finish that I could suggest, would be for the makers of this slovenly put up butter to get a look at the stylishly put up butter imported into Canada from New Zealand. I have before my mind a lot of 190 boxes, handled during the past season, of Western Ontario creamery butter, upon which the finish was so bad that in any discriminating market, it would affect the selling value of the butter to the extent of one-half to one cent per pound. That creamery is within the jurisdiction of this Association, and I would be interested in knowing if this condition came under the notice of the instructor in that district. Makers should remember that creamery butter is one of the most delicate articles of diet that goes on any man's table and attractiveness helps its sale no matter who the purchaser may be. Irregular and short weights are also a cause of considerable trouble. This variation runs from 54 to 59 lbs. in my experience on butter invoiced at 56 lbs. each. Again I must refer to your competitor, New Zealand butter, upon which there is rarely a variation of more than ½ lb. per box, there being practically none under fifty-six and one-half, and none over fifty-seven lbs. These points are practically all within the control of the butter maker, or proprietor of the creamery. In the city of Toronto, it is a serious matter to sell or offer for sale short weight butter, and while a large number of the best Western Ontario creameries are putting up their butter in fine attractive form with uniform full weights, which it is safe to send out to the trade without re-weighing, there are still too many of the other class which bring discredit to their product.

Our best market is right at our own door in the cities and towns of Ontario. Study these markets and the requirements of the dealers who handle your butter, and it should always be remembered that the average consumer will use about twice the quantity of mild salted, fresh made, good flavored butter as he will of heavily salted coarse butter.

This may seem to be rather a severe scoring for Western Ontario creamery butter, and I want to make it very clear that it is not for the sake of simply criticising or finding fault that I have spoken thus plainly. These are the defects as I have found them, and I think the present a very suitable time for us to face the situation just as it is and then for creamery proprietors, makers, cream producers, and dealers to all join hands, and by an enthusiastic and united co-oper-

ative effort put their shoulder to the wheel and place Western Ontario creamery butter in the very first rank as to quality in our Dominion. I consider the present a very suitable and necessary time to give these points prompt consideration.

You are all aware that great changes have taken place during the past few years in the marketing of our dairy produce, and so far as butter is concerned, it is now purely a local or Canadian market. Your butter is each year coming more in competition with Eastern Townships and New Zealand butter, and with adjustments just recently made in United States Tariff it will probably at times find its way into markets such as New York and Boston, and it is very important that the quality be such that it will bring credit to Western Ontario and secure first grade prices. But first and of greatest importance is your present market in the City of Toronto, where the attractive qualities of mild salted eastern townships is getting quite a hold. I am personally very much interested in Western Ontario creamery butter, and dependent upon it, and I assure you that I want to do my share to help along this great work of improving the quality.

There is work to do; there are some problems to solve; but they are solvable, and what a great satisfaction it is to sturdy manhood after a good hard effort to present the solution. What a satisfaction it will be to Mr. Herns and his staff of instructors, to creamerymen and makers, to cream producers and all concerned, if, by a united effort, we can within two or three years, place Western Ontario creamery butter in the very first rank as to quality, finish and package.

This is attainable. Shall we do it?

THE CHAIRMAN: We have a package of New Zealand butter at the exhibition and it does not compare with our own.

MR. STEINHOFF: I am speaking of the butter as a class. I have discussed it from that standpoint. It may be true that the New Zealand butter which is on exhibit is not as high class as some of the Western Ontario butter that is on exhibit, yet as a class the New Zealand butter is better than ours. If our best butter is not being exhibited at Toronto I believe this Association should use its influence to see that the best creameries exhibit, and have a better exhibit on behalf of Western Ontario.

MR. ROBERTSON: How much salt is used by the Canadian trade? Or is it the way the salt is dissolved in the butter that injures it?

MR. STEINHOFF: In some cases the salt is not all dissolved but that is very rare. I would say the salt in Western Ontario creamery butter would be about 4 per cent. and some as high as 5 per cent. I was a little surprised when Mr. Herns gave the average of salt left in the butter as 3¼.

MR. HERNS: 3.35.

MR. STEINHOFF: I was surprised to know that it was not higher. I am sure that 20 per cent. of the butter I have handled would run 4 per cent. or above. I think the Canadian trade is prepared to give the preference to the more moderately salted butter. They want a mild butter both as to salting and color; I would say 3 to 3½ per cent. salt.

MR. R. M. BALLANTYNE: Ten years ago the Canadian trade really demanded a highly salted butter; that has gradually changed, until to-day the best trade demands a butter not containing over 3 per cent. salt. We find they are still asking for a highly salted butter in some sections. British Columbia and all the country that has been getting New Zealand butter are asking for a 2 per cent. salted butter, they do not want 3 per cent. salt at all in the butter. A very considerable portion of our best trade in Montreal and Ottawa demands a 2 per cent. salting. Our Halifax trade that has been getting a percentage of New Zealand

butter demands two per cent. I believe three per cent. is too high for a great deal of our best trade. The best trade in Canada where we can get the highest price is the British Columbia market, and they will pay two cents more per pound for New Zealand butter than they will for Canadian butter. That is largely due to the excellent quality, mild salting, and uniformity of the New Zealand butter. They can always rely on getting a uniform quality of butter from New Zealand, and when you try to sell Canadian butter in British Columbia you have to sell it from two to three cents less per pound than New Zealand butter. That may not be pleasant for you to hear, but I believe the truth is the correct thing to say.

Mr. Steinhoff: There is one other point that I would like to mention in connection with our butter and that is the custom of holding the butter too long in the creamery. I think the experience of the past year will have the effect of curing some of the makers of that habit. In order to get the butter to the consumer in the best condition it should be marketed every week. Butter will not keep in storage in proper condition, it should be marketed inside of ten days and should reach the trade in a nice fresh condition. You are all aware that within six days of the time the butter is made it is worth more than at any other stage. I think it would pay to have more of it reach the consumer within six days of the time it is made.

CHEESE NOTES.

Prof. H. H. Dean, O.A.C., Guelph.

We have heard some plain facts this morning, and I think it is time that our cheese and butter makers heard the truth with reference to some of our dairy products. I have lamented the fact that for a number of years men have got up at our dairy association meetings and have lead you to believe that you were making the finest cheese and butter that could be made anywhere in the world. I was glad to hear Mr. Steinhoff make the very plain statements that he did, and I hope that every butter-maker will take these notes to heart and act upon them when he goes back to his work. I ask you this morning to let us put our heads together and see if we cannot remedy some of the things which to my mind need attention at the present time.

Let us reason together. Who shall reason together? The producer of milk on the farm and the manufacturer of cheese and butter in the factory: the cheese buyer and seller and the cheese eater. I presume we have representatives of these four classes present at this meeting this morning, and I say again, "Let us reason together."

The producer of milk has received a great deal of advice in recent years, and there is very little new that can be said on the question.

Our notes on this occasion will relate to four phases or branches of the cheese industry, namely—cheese milk production, cheese manufacture, cheese selling, cheese consumption.

Cheese Milk Production.—There is little new that can be said under this heading, as the principles of milk production are pretty well known. What is needed now is the application of these principles on the individual farms of cheese factory patrons. Better cows, cheaper, better, and more feed of the right kind to produce milk, proper housing and caring for the cows, cleanliness in milking, and

cooling of the milk so that it will reach the factory at a temperature not above 75°F.—all these points have been emphasized so often that there is literally nothing left to say that is really new in character.

There are, however, two points that may be worth calling attention to under this heading. The one point is the importance of using pure-bred dairy sires for the production of heifers which will make milk in larger quantities at less cost as compared with the present plan of using, in many cases, scrub or beef sires. In all our cheese sections steps should be taken to insure that none but pure-bred males of the dairy breeds be used for replenishing dairy herds. This can be done by forming breeding associations for the purchase of males of good milking ancestry and good individual qualities. Or, the animals may be supplied to owners of cows at a small fee by the Farmers' Institute, Farmers' Club, or by the owner of the cheese factory. We believe it would be money wisely spent by the cheese factory management, whether private or co-operative, to purchase, or rent, the required number of male animals to supply each patron with the service of a pure-bred dairy sire at the cost now paid for "scrubs." In many sections there are owners of pure-bred bulls that would be willing to have the neighbors use these animals, to a limited extent at least, if they were assured of being paid for such service. It is notorious that owners of cows will expect the use of a male at a very low price, and in many cases will not consider it necessary to pay the low fee charged. We have personal knowledge of men who will bring cows for serve, take a hired man from his work in the fields, and then neglect or refuse to pay a reasonable fee. We would suggest that the factory management should become responsible for this service. Make it a regular charge on the factory books, similar to the cost of manufacturing, cut cheese, purchase of milk cans, etc. In my judgment this is the only way—outside of co-operative breeding associations—in which the mass of farmers can be induced to use only pure-bred sires, and the owners of such be assured of their pay for services rendered. My hearers will probably say, "Well, what breed do you recommend us to use?" Experience, man's greatest teacher, has pretty well settled that question, in Western Ontario at least. It is narrowed down to two breeds, the Holstein and the Ayrshire, for cheese milk production; and of these two, one appears to be leading in the estimation of our dairy farmers. In this case, though not always so, it will probably be wise to "follow the crowd."

The other point of which we wish to speak under this head is the use of the milking machine. While we have not been a very strong advocate of the machine for milking cows, after our experience at the O.A. College, within recent years these machines have been very much improved. The practical experience of farmers with large herds of cows indicates that they are likely to solve the problem of milking large herds, and it looks as if in our cheese factory districts none but large herds are likely to prove profitable. The day has gone by when the factory management can send teams over a wide territory calling at farms for little "dabs" of milk, which do not much more than pay the cost of hauling, let alone cost of manufacturing, and leave a profit for the producer. Larger herds milked by machinery, and the milk delivered at the factory by the owner of the cows, or on large vans driven by horses, gasoline or electric power, seems to be the coming plan. During this past summer, in the Grimsby district, we saw a traction engine hauling daily from a large fruit farm three to five wagons loaded with tomatoes and fruit, to a canning factory. Our dairy farmers will need also to adopt some such plan in order to reduce the expenses for hauling milk to the factory. Larger herds of better cows

milked by machinery, and the milk hauled to the factory at less cost, seems to be the tendency in modern cheese dairying.

CHEESE MANUFACTURE.—It looks as if the days of the small, poorly equipped, and worse manned factory were numbered. Concentration of capital, machinery, and men is the modern method of manufacturing. Those of us who are older can remember when the village shoemaker made all the shoes for the neighborhood; when the tailor made the clothes; the harnessmaker made the harness; and the wagonmaker made the wagons. All this has passed into history. Shoes and clothing are made in large manufacturing establishments, and the farmer can buy his shoes and clothing at one-half the cost of twenty-five years ago. The same applies to nearly all other lines of manufacture of dairy products, including cheese. While it may be somewhat unfair to the man who has invested money, perhaps his all, in a small factory, it is the trend of the times. Near the small village where I was brought up, the village shoemaker, tailor, and wagonmaker all bought farms when they found their business leaving them. We shall probably see a similar state of affairs in connection with the cheese business, and many of the men who are making cheese will turn their attention to farming, and no doubt they will make good farmers. The farms of Ontario need such men as are to be found in some factories making cheese at small profit, and in a state of continual anxiety lest they lose their patrons.

One point further. Under present or under changed conditions the cheese manufacturer must study and put into practice how to reduce leaks in the business and how to turn out goods of finest quality at the lowest cost. The manufacturer who is not able to do this will be "driven to the wall" as surely as to-morrow's sun will shine. It is the duty of every manufacturer of milk into cheese, to give careful consideration to the whole question, and if everything is not right, to make it right at the earliest possible moment. Slip-shod methods of manufacturing and conducting business cannot long stand the competition in these modern times.

CHEESE SELLING.—We realize that we are now on dangerous ground. For an ordinary agricultural college professor to offer any suggestions to cheese buyers will, no doubt, be considered the acme of presumption, if not impertinence, and we approach this part of our subject with fear and trembling. It is similar to playing with matches in a powder factory, but possibly we may be able to light one or two matches without causing an explosion. We hope, however, to be forgiven any indiscretions caused by youth and inexperience. The well-known generosity of cheese buyers will probably grant this request.

The first match I would like to light is the one—it *costs too much to buy and sell cheese under present conditions*. Not long ago I was in a large departmental store in the city of Toronto. Passing along the cheese counter, I asked the price of cheese, "18, 20 and 22 cents a pound," replied the clerk in charge. Recently the buyer for my own house purchased cheese in a store in Guelph at 20 cents per pound. The cheese milk producers of Western Ontario did not receive on an average more than ten cents for the milk to make a pound of cheese during the season of 1913 just passed. The manufacturer, as a rule, received less than two cents per pound. Who then got the difference between 12 cents and the 20 cents paid for a pound of cheese by the consumer? We are not laying the blame on any particular person's shoulders, but we do think that we are justified in lighting this first match.

Our own Ontario Department of Agriculture is making a move to investigate this question. For some time it has been agitated in the United States, but it does not seem to be very popular in certain American quarters. For instance, in a

recent New York trade publication we read: "The first annual report of Secretary of Agriculture David F. Houston shows a broad grasp of the multitudinous functions of the Department, and a keen appreciation of possibilities of improvements." But all of the report does not please the editor. There is a fly in the ointment. He goes on to say: "In the broader consideration of 'marketing,' however, there is one note in the Secretary's report which, while it is perhaps to be expected in response to modern agitations, and which will probably lead to large expenditures of very doubtful value, seems to us discordant. We refer to the general consideration of distribution and marketing. Such phrases as, 'The farmer does not get what he should for his product,' and 'The consumer is required to pay an unfair price,' sound to us like mere echoes of popular clamor, and not appropriate statements with which to begin an investigation." It is strange that any plan adopted whereby the producer shall receive more for his goods, and the consumer pay less, is unpopular with certain classes. In spite of this unpopularity, it is a policy that is likely to receive more attention than has been the case in the past. You are possibly ready to ask: "Well, if it costs too much to get cheese from the producer to the consumer under present conditions, what should it cost?" This is a very difficult question to answer, but taking it on the average my judgment, subject to revision, is that it ought not to cost more than ten per cent. of the ultimate selling price, for marketing costs. For instance, if cheese sells at 15 cents per pound retail, one-and-a-half cents should cover transportation and selling costs; if the retail price be 20 cents, then two cents should cover cost of marketing. In the foregoing calculations there would be 13½ or 18 cents, according to retail price, for production and manufacture. The latter price would be encouraging to both producer and manufacturer, whereas present prices are discouraging. But you say this cannot be done. Why not? I went into a store not long ago to buy a certain article. I was told the price was so-and-so. "But," I remonstrated, "that price is too much for that article." The dealer said to me, "We can't sell that article below the figure I have quoted you. *The retail price is fixed by the manufacturer.*" What a happy condition in the dairy industry when the farmer and the manufacturer are able to fix the retail price for dairy goods. But if this can be and is done in many other lines of manufactured articles, why not for dairy goods?

How can present costs of selling be lessened? One way is to lessen the costs for inspecting cheese at the factories. This will be brought about by having large factories, as previously indicated, which would mean more cheese at one point to be inspected, hence less cost per cheese or per one hundred dollars of goods purchased. Another plan is to concentrate cheese at centres equipped with cold-storage facilities and under the charge of an expert salesman, who if he does not deem it advisable to sell may safely hold the cheese for a favorable market. Without in any way casting reflections on the present salesmen, I hope they will allow me to say that they are not in a position to compete with cheese buyers who have inside information with respect to the world's markets not available to ordinary salesmen, who rely on the weekly market report or some other agency not altogether reliable and up-to-date, for the reason that these sources of information are controlled by those interested in buying cheese cheaply. Our methods of distribution are also faulty, but of this we have not time to speak, nor is it likely that we can do much good by discussing transportation problems. These are broad questions which will probably be dealt with elsewhere. Clean, cool cars, careful handling of the cheese so as not to break the boxes are points that may be mentioned in passing. With this observation we shall leave the cheese buyer, and trust he will take what has been

-aid in good part, as it is not our intention to antagonize him, nor yet to harshly criticize him or his methods. He is a part of our present system of marketing cheese. We can scarcely get along without him under present conditions. Whether or not he is more than a "necessary evil" remains to be seen. An old observer of the feminine portion of humanity remarked they were:

"So meek, so stern; so gentle and so pouty,
There's no living with thee nor without 'ee."

Cheese Consumption.—The fourth and last note relates to cheese consumption. Canadians are not large consumers of cheese. The probable cause for this lies in one or both of two things—the lack of knowledge regarding the value of cheese as a food (see address by Prof. Harcourt, Dairy Convention, 1913) and the difficulty of getting good cheese in Canada. During the Winter Fair held at Guelph in December, 1913, the Dairy Department of the O. A. College aimed to bring this matter to the attention of consumers by means of free cheese samples, and by distributing a pamphlet on

The Value of Cheese as Human Food.

Mr. and Mrs. Consumer,—Have you sufficiently realized the value and importance of cheese as human food? Are you aware that cheese at 17c. a pound furnishes for one dollar more than twice as much human energy than is obtained for one dollar in sirloin beef or lamb at 18c. per pound? Do you not think that you could profitably use more cheese on your table with profit, and thus help to reduce the cost of living for your own particular family? Please note the following notes about CHEESE for table use:—

(1) It can be eaten without cooking. This saves expense and labor. (Taste the free samples given away daily at the O.A.C. Dairy Exhibit, and then make up your mind to eat cheese at least once a day.)

(2) If desired it can be cooked in a variety of dishes. (See cheese dishes on this pamphlet.)

(3) Well ripened cheese is partially pre-digested and can be eaten by anyone. Experiments have shown that 95 per cent. of the fat and proteids of cheese are digestible by human subjects.

(4) Cheese is a muscle-builder and brain food. The proteid compounds are the source of human muscle. For one dollar you can buy more than twice as much muscle forming material in cheese at 17c. per pound as you can in eggs at 25c. a dozen, or in ham at 18c. per pound.

(5) There is little or no waste in cheese. "Waste not, want not" is a homely proverb well worth considering at the present time. No class of foods have so little waste material as those from the dairy. It pays to study the question of "waste" when purchasing foods.

(6) An almost endless variety of cheese can be made, thus suiting the endless variety of human tastes for food.

(7) Why not ask your grocer for Canadian cheese, and insist that it be of good quality?

Canadian
Consumers
Cannot
Cultivate
Correct
Choice
on
Cull
Cheese.
Consequently
Customers
Can do
Canadian
Cheddar
Cheese
Considerable good
by
Calling for
Correct
Cheese.

CHEESE DISHES.

Cheese Sauce.

1 cup milk.
2 tablespoonfuls butter.
3 tablespoonfuls flour.
⅛ teaspoonful mustard.
½ teaspoonful salt.
A little pepper.
¼ cup grated cheese.

Put the butter, flour, mustard, salt and pepper into a saucepan; stir over the fire until it froths· add the milk and stir constantly until it thickens and boils. Stand over hot water or on a cooler part of the stove, add the cheese and stir until it is well mixed in.

This may be used to pour over cooked macaroni or cauliflower, or as the foundation of a dish of baked macaroni and cheese. If the cheese is too new, the sauce will not be well flavored.

This may be converted into Cheese Soup by adding a·cup more milk and seasoning to taste.

Cheese Custard.

½ teaspoonful salt.
¼ teaspoonful mustard.
1 egg.
2-3 cup milk.
2-3 cup grated stale cheese.

Put the seasonings and egg into a saucepan and beat thoroughly; add the milk and stir in the cheese. Put over the fire and stir constantly until it begins to thicken and coat the spoon. Take at once from the fire, and pour over soda biscuits, strips of buttered toast, or shredded wheat biscuits, arranged on a hot platter.

Variations—1. The mixture may be enriched by adding 1 tablespoonful of butter.

2. If a large quantity is made, flour may be substituted for some of the eggs, using 2 tablespoonfuls for each egg omitted. In this case the milk should be thickened with the flour, the cheese and seasonings stirred in and the beaten egg stirred in just before taking from the fire.

Cheese Souffle.

¼ cup butter.
¼ cup flour.
¾ cup grated cheese.
4 eggs.
1 cup milk.
1 teaspoonful salt.
¼ teaspoonful mustard.
A little pepper.

Melt the butter, add the flour and stir over the fire until frothy; add the milk and stir constantly until it thickens and boils; stir in the seasonings and cheese; stir in the beaten egg yolks and take from the fire at once. Stand the saucepan aside and let the mixture cool. Beat the egg-whites stiff, add a little to the cheese mixture and stir it in; add remainder, fold it in lightly but thoroughly, turn the whole into a buttered baking dish and bake in a moderate oven. The time required for baking depends upon the oven and the depth of the mixture in the dish. It usually takes about an hour. If the oven is in the least too hot, stand the baking dish in a pan of boiling water while baking.

Variations—1. This may be converted into a sweet souffle by omitting the cheese and seasonings, and using one-half cup of sugar and any desired flavoring instead.

2. This may be converted into a meat souffle by using chopped ham or tongue or finnan haddie instead of the cheese.

3. Half of the flour may be omitted, using one-third of a cup of bread crumbs instead.

ADDRESS.

R. M. Ballantyne, Montreal, Que.

Your President has very kindly asked me to say a few words, and, having been away from you for ten years, I am pleased to be once more at your convention. During the time I have been absent I have always been anxious to come back and see you and shake hands with you and renew old acquaintance. I have felt that I have been out of touch, and I came back really to enjoy myself and not for the purpose of making a speech.

At the time I was here last you had just got up to about the top of the cheese and butter business. I think that was in 1904. We thought at that time that our whole existence depended on the export trade. In that year the total exports of the Province amounted to something like 3,000,000 cheese, and about 550,000 packages of butter. If that was all converted into cheese you would have about 3,800,000 cheese. This year we exported only cheese, because butter has ceased to be an exportable commodity, and it has come down to about 1,660,000 packages, a decline, if it were all cheese, of 2,140,000 packages. Some speaker made the statement last night that the decline was only about 11 per cent. I don't know what year he was going by, but he certainly was not taking the maximum year and last year. I am mentioning these facts, not for the purpose of saying something discouraging, but more for the purpose of encouraging you; because in the year 1904 a good portion of the crop had to be carried over the winter and was sold the next spring at six cents per pound, and you know that the prices you are getting to-day are far above that.

I have been watching the effect of the new United States tariff and we have found that in a very large territory, covering as far as the Lake St. John district a long distance north of Quebec and as far west as Belleville, and I do not know to what extent in Western Ontario, a tremendous number of cattle have been shipped out of the country—150,000 cattle or more. In many cases they were old cows, and the people were glad to get rid of them at the prices they received; but in a tremendous number of cases they were calves, one year and two years old, the basis of the coming herds. I do not believe it will be possible in the next five years to get our herds back to the size they have been in the years past. I believe we are bound to have practically a beef famine in Canada for five years, and that beef famine will keep on taking more calves, and our herds of milch cows will not get back to where they were for some years to come. I believe it is a true statement to make that in 1914 we will export several hundred thousand boxes less of cheese than we exported the past year, and the past year we were 200,000 boxes less than the previous year, and that year was 100,000 less than the year before. The exports have been going down but the prices have been going up. I believe that this year, and for years to come, you will see the highest prices paid for cheese that have ever been paid in the history of the trade. Prof. Dean said that we were afraid to talk prices, but I am telling you now that you will see the highest prices that have ever been paid in the next few years. The same thing will not be true of butter, because we are practically on an importing basis, and butter prices cannot go up any higher with us unless they go up higher in the markets of the world. If prices for butter go up in the world our prices will go up with them, but not otherwise.

The supply of cheese for the English market depends on Canada and New Zealand, and there is not any other country ready to make cheddar cheese. It is a skill that has to be learned by actual practice in the factory. The people in Denmark, Holland, Northern France, Siberia and Austria have not learned the art of making cheese, and New Zealand and Canada are supplying the home market. New Zealand is increasing her shipments wonderfully fast, so fast that it is wonderful how they can do it; but they are not increasing as fast as we are declining. We have declined 1,300,000 boxes, and they have increased. Last year 891,000 boxes was their total export. They have not increased at the rate we have declined, and that is the reason you are getting such high prices. England will get less cheese in the years to come than she has in the years that are past. I want you to feel that we are not in a declining business. Every man in the business should say to himself: "Here is an opportunity that we have never had in this business before." The price of cattle in Canada must be higher than the price of cattle in the country to the south of us for at least five years to come, and during that time we will have comparatively famine prices for cattle. You need not be in a hurry to go out of the cheese business or to sell your cattle, because you will get good prices for a long time to come. (Applause.)

Mr. C. F. Whitley, Dominion Department of Agriculture, gave an address on, "Is Cow Testing Worth While." (See page 15.)

DAIRY PRODUCTION IN CANADA.

J. A. Ruddick, Dominion Dairy Commissioner, Ottawa.

I am very glad to once more meet the dairymen of Western Ontario in convention assembled. I am always glad to come back to this part of Ontario, which is near my native home, having been born in the adjoining county of Oxford.

The figures which I will give you this afternoon, and some remarks thereon, will be found interesting, because they show the tendency of the trade during the past few years.

In his opening remarks, Mr. Ruddick drew attention to the fact that it is hardly correct to judge the industry by the export trade.

While the cow population has decreased during the decade from 1901 to 1911 in the eastern provinces, the population in the western provinces has increased to such an extent that the total population numbered 2,594,179, an increase in ten years of 185,502 cows.

The value of dairy products in 1910 amounted to $109,340,024, an increase in ten years of $42,868,981. The increase in the number of cows during the decade was only 7 per cent., while the value of the total product, that is, milk used for direct consumption with what was used in the manufacture of cheese, butter, condensed milk, etc., shows an increase of 60 per cent. In Ontario, with a decrease in the number of cows of 3 per cent., the value of the product increased by 18 per cent. In other words, in 1900 the value of the total product was $27 per cow for the whole Dominion, while in 1910 it has risen to $42 per cow. Part of this increase must be attributed to higher prices in the latter year and to the fact that a larger proportion of the total product was sold as market milk.

The increase in per capita consumption may be attributed partly to the great prosperity of the country, and consequent increase of purchasing power, and partly to the better quality of milk and its products in recent years. It took about $17,000,000 worth of dairy products to supply the extra demand arising from the increased per capita consumption in 1910, as compared with 1900, and yet it was hardly thought of as an outlet of any importance. If we had succeeded by some special effort in expanding our foreign trade in dairy products to that extent during these ten years, it would have been the talk of the country. Then there is the increase in consumption due to the growth in population, which amounted to about $20,000,000 more during the same period. This shows that the total home consumption in 1910 exceeded that of 1900 by at least $37,000,000. The decrease in the value of the exports for the same period was less than $3,000,000.

Now let me draw special attention to what I consider is a most important fact --the increase in the annual yield of milk per cow from 2,850 pounds in 1900 to 3,805 pounds in 1910. Here is where we get our large increase in production with a comparatively small increase in the total number of cows, and it was lack of complete information on this point which caused many to believe that there was a retrograde movement in some of the provinces.

In discussing the effect of the new United States tariff, Mr. Ruddick says: "Just what the development of this trade may be in the future is rather hard to determine. Milk and cream will probably be exported as long as the present tariff remains in force, especially at convenient shipping points, but there does not seem to be any immediate prospect of a large quantity of either cheese or butter being exported. In the present condition of the Canadian market a very small movement in that direction would boost prices to a prohibitive point. The circumstances are such that New Zealand and Australian butter is more likely to supply the demand than Canadian. Having a large surplus for export, both these countries must accept for their surplus the international value, which is lower than the ruling price promises to be in Canada. Heavy shipments of butter have already been made from New Zealand to San Francisco since the new tariff came in force on October 3rd last."

In conclusion, Mr. Ruddick stated: "It seems absolutely clear to me that there has never been such a good outlook for dairying in Canada as there is at the present time. The markets are assured and prices are bound to be higher than they have been in the past."

In discussing the crate used for shipping cheese from New Zealand, Mr. Ruddick explained that the crate on exhibition was used to ship two cheese weighing 158 lbs. from New Zealand to London, then the crate was sent to Ottawa, from there to Cornwall then back to Ottawa and on to Stratford, and it was still in a perfectly sound condition. The crates are put together during the slack season, one-half of the slats being nailed on, and then put away until wanted, when they are simply laid on their side and the cheese dropped in and the remainder of the slats nailed on. The cheese can be tried by slipping the tryer between the slats. When Mr. Moore, of the Dominion Department of Agriculture, was in London he was told that the merchants would prefer these crates to the boxes used in Canada, so far as testing the weights was concerned. In order to get the cheese out of the crate, one of the slats is taken off and then the top and bottom split by the use of a hatchet. When the cheese are put in again the heads are fastened together with a couple of clutch nails.

We made some inquiries as to the loss Canada might sustain by losing her

distinctive package; there is something in that, but Mr. Moore was told in London, where all the New Zealand cheese go, that Canada would not lose anything on that score. In Liverpool and other ports where the New Zealand cheese do not go they were rather opposed to the New Zealand package and thought the Canadian package was the best, provided it could be made so that it would stand the handling and arrive in sound condition. I do not want to be put in the position of advocating this package at the present time. I brought it here for your inspection. It is made of New Zealand wood which is not like any other wood in the world; it is called white pine, but it is more like basswood, the head is made all in one piece. We could not do that in this country, but would have to make the head in two pieces. I see no reason why that package cannot be made for a single cheese; it might not be quite so strong. It takes two men to handle this crate, and that is a strong objection to it from the export point of view.

Mr. R. M. Ballantyne: Two cheese are handled instead of one each time. Our present boxes are destroyed by handling because the men dump them on the corners and split the boxes, but when they are handled by two men they very seldom arrive in a broken condition.

Mr. Ruddick: This New Zealand crate could be handled by a truck by putting one on top of the other.

Mr. R. M. Ballantyne: Yes, I think they could be handled in that way, but it might cost a little more to pile them in the warehouse.

Mr. Ruddick: It might be of interest to you to see a package we are using for shipping butter at our dairy station at Finch. It is made of corrugated straw board, and there is a double lining. Sixty pounds of butter can be put in that package and it can be shipped by express.

Mr. Steinhoff: Do you ship the butter in that way from the factory?

Mr. Ruddick: Yes, it is used only for print butter. It has been used at the Finch factory for a year. This package costs between 12 and 13 cents. We use this smaller package for shipping ten pound cheese. It will hold four, and they cost between 9 and 10 cents. The chief objection to this is that if the cheese are left in them any length of time in the curing room there is a tendency to mould, after four or five weeks. If the cheese are put in just before they are shipped they answer the purpose and are very much cheaper than the wooden box.

Mr. J. N. Paget: Where do you get them?

Mr. Ruddick: They are made by a number of firms; as a matter of fact this was got at Niagara Falls.

Mr. Steinhoff: That kind of a package does very well for butter where there is no moisture.

A Member: Will that package stand shipment?

Mr. Ruddick: We have been using it for a year, and it has stood the test. We used it all last winter and summer.

A Member: Do you put the butter in just as it is made?

Mr. Barr: The butter is wrapped in dry paper and allowed to stand for sometime and it is pretty well dried off. I do not think it would do to put the butter in immediately after churning.

Mr. Ruddick: We never soak the wrappers for print butter. I learned that in New Zealand. It is much easier to handle the paper if it is dry.

Mr. Steinhoff: We have been distributing butter in corrugated fibre boxes like that, and they do all right where the butter is dry and where there is no

moisture. A good many packages come in that are not satisfactory; if there is any soaking from the corners the package gives way.

MR. RUDDICK: I think that is quite true, but need there be any moisture?

MR. STEINHOFF: If dry wrappers were used it would be all right.

MR. RUDDICK: It is just a question of using dry wrappers, and it is easier to use a dry wrapper than a wet one.

THE CHAIRMAN: I have the very pleasant duty to perform of introducing the new President of the Association, Mr. J. B. Muir, of Ingersoll. He has been connected with the dairy business for 35 years, and I am sure that the affairs of the Association will thrive in his hands.

MR. J. B. MUIR, President elect: I desire to express my appreciation of the very great honor that has been conferred on me by electing me President of this Association. I am sure that I can speak for every director as well as myself when I say that during the coming year we will do everything that is possible for us to do to further the interest of the Association.

GRADING CREAM AT CREAM GATHERING CREAMERIES.

GEO. H. BARR, OTTAWA.

Year after year the Federal and Provincial Governments are spending large sums of money in educating the patrons of cheese factories and creameries to produce better milk and cream by printing and distributing reports, bulletins and circulars, by sending Institute speakers over the country again and again, by employing Dairy Instructors to visit the farms and attend special meetings; yet, notwithstanding all this educational work (and no Province has done as much as Ontario) we are still receiving at our creameries a large percentage of the cream in such a condition that it is impossible for the buttermakers to make finest butter. I do not wish to be misunderstood in regard to educational work. I am a firm believer in it, and it must be continued along the very best lines; but I believe the time has come when the creamery men should give the patrons who have responded to educational work some remuneration for doing so. This they can do in a fair and effective manner by grading the cream and paying a premium for first-grade cream. Is it a fair deal to pay the man who through carelessness or indifference allows his cream to become tainted and over-ripe the same price as the man who has gone to considerable expense and time in fitting up a proper place to keep his cream in first-class condition? I certainly think it is not. This then, is one reason for grading cream. Another reason is; we must make a finer quality of creamery butter if we are going to successfully compete with New Zealand butter, or satisfy the demands of the best markets in our Western Provinces. The day is past when we can send inferior butter to the Western markets and get good returns. Last summer I had an opportunity to meet a number of the men in the Western Provinces who handle large quantities of butter, and I endeavoured to find out what their opinion was in regard to the quality of butter shipped from Ontario and Quebec. Their remarks were as follows:

"We get very good results from buying Eastern Townships butter. We do not want to buy any more Ontario butter. Ontario butter is seldom clean in flavor and some of it goes very stale. Carload lots are not uniform in quality.

and it is practically impossible to keep customers satisfied, as there is so much variation in the quality of the different brands. We like New Zealand butter. When you see one box of New Zealand butter in a shipment, you see the quality of the whole lot. The butter handled by the Alberta Government is the kind we want."

These are criticisms our Eastern creamery men must consider, and I think it would be wisdom on their part to adopt some means whereby these defects may be overcome.

Will grading the cream and paying a premium for first grade improve the quality of the butter? The following chart which shows the results from grading the cream and paying a premium of 4 cents per pound of fat on first-grade cream during part of the season of 1913 in an Alberta creamery answers the question very nicely. This chart was prepared and sent to me by Mr. C. Marker, Dairy Commissioner for Alberta.

The following table shows the effect of the adoption of quality (grade) basis payment for cream at an Alberta creamery. The grading of the patrons' cream was commenced in the first week of July, 1913:

Make for week ending	Per Cent. of Make in Grade				Average Price
	Specials	First	Second	Off Grade	
					c.
June 7	.....	19.0	60.0	21.0	22.97
" 14	.....	21.6	78.4	.....	23.48
" 21	14.1	54.5	31.4	.....	25.01
" 28	.....	37.9	62.1	.....	23.86
July 5	.....	57.0	43.0	.....	24.31
" 12	33.4	63.5	.....	3.1	26.23
" 19	45.5	52.5	.....	2.0	26.66
" 26	36.9	58.0	3.9	1.2	26.32
Aug. 2	91.0	4.5	4.5	.....	28.06
" 9	64.1	35.9	.....	.....	27.33
" 16	95.4	1.1	3.5	.....	28.22
" 23	78.0	22.0	.....	.....	27.76
	c.	c.	c.	c.	
Selling price at creamery	28.45	25.33	22.97	20.86	.....
					c.
Whole period	36.7	37.4	23.7	2.2	25.81
4 weeks prior to July 5	4.2	34.9	56.2	4.7	23.92
4 weeks after July 5	49.1	47.1	1.9	1.9	26.73
7 weeks after July 5	61.7	35.5	1.7	1.1	27.16

This is effective work in getting good cream. The buttermaker at this creamery states that he did not receive more than one or two cans of second grade cream from any individual after grading was commenced, and did not lose one patron. Mr. Marker states that grading cream and paying for it on a quality basis has done more to improve the quality of butter in Alberta in three years than educational work alone did in ten years, and "we dealt it out in fairly liberal supplies," he says.

Mr. Marker expects that in 1914 the creameries grading cream will represent 75 per cent. of the butter output of the province.

In Saskatchewan 75 per cent. of the creameries were grading the cream in 1913, and this year the Government is making arrangements to grade and sell all the butter according to grade. The following is an extract from a letter received from Mr. W. A. Wilson, Dairy Commissioner for Saskatchewan.

"Concerning the value of cream grading from an educational standpoint as compared with the old-time campaign of public meetings, I may say that there is no comparison whatever. The fallacy of the old system has become apparent to the average farmer. He points at the speaker with more or less scorn, because he preaches the value of quality and respectfully declines to recognize quality in dollars and cents. If the value of butter is based upon quality, which, of course, we all admit, then its value is also dependent on the quality of cream. This being admitted, why is it that quality is not recognized when paying the farmers, who, under our present cream-gathering system, practically fix the flavour in the finished product. I believe our farmers, as a general rule, recognize the truth of this and are prepared to co-operate with the manufacturer, providing the manufacturer will reward him according to the quality of the produce he supplies. The indifferent patron will also be rewarded according to his work. The natural inclination may be to withdraw his support, but this is tantamount to a public acknowledgment that his cream was inferior and in most cases one is not disposed to leave oneself open to such publicity. Our experience has been that he silently determines to obtain the highest grade and price, and usually succeeds. The difference in price for the product creates interest in the industry. Once this is done, the improvement in the finished product will be in direct proportion to the standard fixed and maintained by the creamery manager, and this standard is equally as important as grading. If the standard is too low, grading is really of no value.

"A creamery may lose business at the start, but the better price obtained for the better quality of butter will enable the manufacturer to pay a price that will easily induce farmers to supply cream.

"I might relate one experience of several which I had last season in the matter of marketing butter. I sold on sample some 30,000 pounds of fresh-made bricks, to be shipped at intervals during the months of June, July and August, 1913, to a Winnipeg firm, on the basis of 26½c. f.o.b. shipping point. At the time the sample was forwarded and the sale made, the same firm was buying Manitoba creamery butter at 23c. f.o.b. Winnipeg. They were willing to pay 3½c. per pound more, plus the freight and icing charges, in order to get the quality. The grading of cream was very largely responsible for the quality of the butter I had to offer."

As a result of grading the cream in these two Provinces, the butter from creameries grading the cream is commanding prices in the British Columbia and Yukon markets that are unsurpassed in Canada. It is doing more. It is creating a demand for graded butter, as the following resolution shows:

November 24th, 1913.

At a meeting of the Wholesale Fruit and Produce Association of Vancouver, the following resolution was carried:

"Whereas the buying of creamery butter offered by creameries operating in Manitoba, Saskatchewan and Alberta, particularly from those creameries operating outside of the direct control of the Dairy Departments of the above Provinces, is surrounded with the greatest difficulty as to buyers getting proper weight and grade of goods.

"Be it resolved, that all creamery butter bought from any creamery operating in any of the above provinces, or purchased from any broker or agent representing any creamery, such creamery butter is to be bought only on a grade certificate to be issued by the Department of Agriculture for the province in which the creamery offering the goods for sale is situated.

"And be it further resolved that a copy of this resolution be mailed to each creamery operating in the above provinces."

This shows the feeling of the merchants in regard to grading, and we will have to meet their demands if we are going to place butter to advantage on these markets.

We saw something of the superior quality of Alberta butter at Toronto and Ottawa Fairs last fall when it was awarded four 1st, two 2nd, and three 3rd.

prizes. A word as to how the cream is graded. Most of the cream is delivered to the creamery only twice a week, by the patrons themselves, by train, or on cream routes. That delivered by the patrons, or by train, is of course, graded from the patrons' cans upon arrival at the creamery. On the cream routes, the haulers take a sample of the cream at the farms usually in a 4 ounce bottle in much the same manner as is done in Ontario. At the creamery these samples are warmed to 98 or 100 degrees and thoroughly mixed before the composite sample is taken. The balance of the sample is used for grading. The standards for grading are about as follows:

First Grade Cream. Preferably sweet, from which first-class butter can be made by a competent buttermaker. The flavour to be clean and fresh and consistency smooth and even.

Second Grade Cream. Sour or sweet, which is slightly stale, old or bitter in flavour, but of a smooth even consistency.

Cream which is not clean, which is lumpy, which is very stale, old, bitter or musty in flavour should not be accepted.

In Alberta the Government provides a system of grading and selling the butter from any creamery in the Province. The Saskatchewan Government is going to adopt a similar system this year. The butter is shipped to a central cold storage where it is graded and sold by the Dairy Commissioner. A detailed statement of the grading and defects is sent to each creamery immediately after grading, so that every buttermaker knows exactly the standing of his butter each week. This system of selling is scarcely practical at the present time in Eastern Canada where there are so many large centres. I would, however, like to say that I believe there is a splendid opening for the creameries in Western Ontario which will grade the cream and adopt a system of shipping their output to a central warehouse where the butter will be graded and sold under recognized standards of quality. It is not necessary, however, to grade the butter to make the grading of cream a success. Grading the cream and paying a premium for first grade is simply a business arrangement between the creamery management and the patrons in regard to the method of dividing the money due the patrons, and need not interfere with the selling of the butter.

How to Pay the Patrons. The total receipts for butter, less manufacturing and other expenses, will equal the amount of money due the patrons. We will suppose a creamery has in the payment period 8,000 pounds of fat, which after deducting manufacturing charges nets the patrons 30 cents per pound or $2,400. In this 8,000 pounds of fat there is 6,000 pounds on which we want to pay a premium of 2 cents per pound. The money would be divided as follows: First deduct the premium to be paid on first grade cream from the total money; then divide the total fat into the balance, which will give the average price per pound of fat in second grade cream. The pounds of fat in second grade cream multiplied by the price per pound will equal the amount to be paid for second grade cream fat. The price per pound of fat for second grade cream plus 2 will equal the price per pound of fat for first grade cream.

Thus 6,000 × 2 = $120 premium on 1st grade cream
2,400 − 120 = $2,280
2,280 ÷ 8,000 = 28.5c. average price per lb. 2nd grade cream fat.
28.5 + 2 = 30.5c. average price per lb. 1st grade cream fat.
2,000 lbs. 2nd grade cream fat at 28.5c. = $570
6,000 lbs. 1st grade cream fat at 30.5c. = $1,830

$2,400

In some cases the second grade cream is churned separately, but this is not the general practice.

I think I have said enough to show that grading cream can be no longer considered an experiment; also that paying a premium for first grade cream will result in a finer quality of butter being made, and is the only fair and just method of dividing the patrons' money. The clean, up-to-date patron will get full value for the time and money he has spent in producing a fine quality of cream. The careless and indifferent patron will get a fair and just reward for his work and time. The buttermaker will surely make finer butter. The merchant will have a better satisfied customer and a satisfied customer is the greatest blessing any industry can hope to have.

MR. J. H. SCOTT: Were the different qualities of cream churned separately?

MR. G. H. BARR: No, in some cases the different grades of cream are churned separately, but in the ordinary work the cream is taken in and all churned together. In some places where they get in a lot of poor cream it is churned by itself, but that is not the general practice.

MR. STEINHOFF: How do they get these separate prices if they do not churn the cream separately?

MR. BARR: One vat might be wrong, and the other four or five vats would be first class.

MR. STEINHOFF: How would they arrive at the average price?

MR. BARR: It is all graded at the grading station.

MR. BALLANTYNE: How do they pay the patron?

MR. BARR: I will tell you how the cream is graded, and then you will understand it. The butter-maker at this creamery states that he did not receive more than one or two cans of second grade cream from any individual after the grading was commenced; that is where they get the advantage. They get very little second grade cream, and he did not lose a patron. That might not be the case here in Ontario, but in Alberta the creameries are a long distance apart and the patrons cannot very well go to another factory. Mr. Marker states that grading cream and paying for it on a quality basis has done more to improve the quality of butter in Alberta in three years than educational work alone did in ten years, and they dealt it out in fairly liberal supplies, too. In the Alberta creameries they are paying all the way from 2 to 8 cents premium on first grade cream.

MR. BURGESS: Do they use individual cans for collecting the cream?

MR. BARR: A great many creameries use large cans, and the cream is weighed at the farm and put into these large cans. If it is shipped in by train of course it is individual cans.

ADDRESS AND PRESENTATION OF PRIZES.

G. A. PUTNAM, DIRECTOR OF DAIRYING, TORONTO.

I wonder how long the Minister of Agriculture and those responsible for providing the money for dairy instruction will continue to support the work when we find that the quality of Ontario butter is not improving as it should. In fact we find that in a few sections the quality of the butter is not improving, and we are spending large sums of money on instruction work. We had somewhat similar

experience along another line of effort made in Ontario some years ago. You will remember that about fifteen years ago we instituted a campaign for the improvement of the bacon industry, and every Institute deputation was advocating a certain type of bacon hog; but the pork packers, like our cheese and butter buyers, did not discriminate in price between the different qualities, and the result has been that many farmers have gone back to the old type of hog. A large proportion of them, however, are wise enough to know that if they produce the kind of hog which will insure first-class bacon, they will reap a benefit, but not the remuneration to which they are entitled, for the extra expense of producing a good type of bacon hog. Unless the creamery men are prepared to do something along the line that Mr. Barr has been suggesting as to grading of cream, it appears to me that the Department will hardly be justified in continuing to send out creamery instructors.

I am sorry that time will not permit me to deal with the subject of co-operation, except to state that there is no question before the farmers of Ontario which is of greater importance. I do not refer to that co-operation which means a combination or trust, but true co-operation. This whole question is exhaustively dealt with in a bulletin, No. 192, issued by the Provincial Department of Agriculture in 1911. I would advise you all to get a copy of that bulletin and read it over carefully, and see what can be done to apply the principles laid down to your own locality. The Department has recently appointed Mr. F. C. Hart, Parliament Buildings, Toronto, to devote his time to Co-operation and Markets. Write direct to him if you have problems along these lines.

Just a word of encouragement to the good farmers of Western Ontario. I am fully convinced that the man who owns a good farm any place in Western Ontario will, in the near future, see the value of that materially increased. When we compare the productive value of the soil in Ontario with similar soil in such States as Iowa and Nebraska and some other Western States, we cannot but conclude that the lands over there are selling a great deal above their real value, or farms in Ontario are selling a great deal below their value. I believe that while the farmers generally are doing well they are seeking to do better, and will receive larger prices, not only for what they produce on their farms, but also their lands will greatly increase in value.

I will now present the trophies which have been won at this exhibition. It is a great distinction to be able to win a trophy in such a splendid competition as you always have at this convention, and the exhibit this year is, I believe, above the average. The presentation then took place.

REPORT OF COMMITTEE ON RESOLUTIONS, 1914.

We have pleasure in submitting the following resolutions:—

1. We, the members of this association, desire to express our appreciation of the kindness of the Mayor, Council and Board of Trade of the city of Stratford in furnishing the free use of the City Hall for the Convention, and the Market Building for the Dairy Exhibition, and we also wish to thank the citizens of Stratford for the kind reception they have given us.

2. Whereas, the excellent addresses given by the various speakers have made this Convention not only successful but of much educational value, we desire

to express our appreciation of their efforts and extend to them our sincere thanks for their assistance.

3. The thanks of the members of this association are extended to the press of Stratford and other cities and towns for the excellent reports written by them of this Convention.

4. That the thanks of the members of this association are extended and hereby tendered to the Canadian Salt Co. of Windsor, Ontario, through their general manager, Mr. E. G. Henderson, for the very handsome badges presented by the company to this association.

5. That the thanks of this association are hereby tendered to C. Richardson and Co., St. Mary's; R. M. Ballantyne, Ltd., Stratford; C. H. Slawson and Co., Ingersoll; The Heller and Mertz Co., New York; The J. B. Ford Co., Wyandotte, Mich.; Marshall Dairy Laboratory, Madison, Wis.; The Canadian Salt Co., Windsor; The Western Salt Co., Mooretown; Ryrie Bros., Toronto; The Imperial Bank of Canada; De Laval Dairy Supply Co., Montreal, Que.; W. A. Drummond and Co., Toronto; Wells-Richardson Co., and W. J. McCully, Stratford, for the special prizes kindly donated for our Dairy Exhibition.

6. That as dairymen we are under great obligation to both the Ontario Department of Agriculture and the Federal Department of Agriculture for assistance rendered the dairy industry, and we wish to express our sincere thanks and appreciation of the work done by these agricultural departments.

The Convention then closed.

MEETING OF CHEESEMAKERS AND BUTTERMAKERS HELD AT GUELPH DAIRY SCHOOL

The tenth annual creamery meeting and the second combined annual cheese and creamery meeting was held at the Dairy School, O.A.C., Guelph, on Wednesday, December 10th, 1913. S. E. Facey, President, D. A. W. O., acted as Chairman.

THE CHAIRMAN: This is the first time I have had the privilege of attending this meeting, and I am very pleased indeed to see so many present. I shall not make any lengthy remarks as we will require all our time for discussion. We trust you will take up the subjects as they come up, discuss them freely, and bring up any points which may be of interest.

MR. HERNS: This is the second combined cheese and creamery meeting and the Seventh Annual Creamery Meeting which we have arranged since I took charge of dairy instruction work in Western Ontario. Thinking that perhaps the creamery men might be getting tired of coming to this meeting year after year, I suggested to some of them that we should hold this meeting each second year only. This did not, however, seem to meet with approval, as nearly everyone whom I spoke to about the matter was anxious to have the meeting held as usual. Judging from the attendance this afternoon there is no question about the interest taken in this meeting, and we have reason to believe that it is probably one of the best meetings of the kind held each year in Western Ontario. Holding it at this time gives us the privilege of visiting the Winter Fair and the advantage of reduced rates. We have to thank Prof. Dean and his staff for the trouble they go to each year in assisting to make this meeting a success. I will briefly open the discussion on each subject, pointing out in as few words as possible the object of having a discussion on each of these points, and I would be glad if you would discuss each one freely.

Question 1.—(*a*) The overrun from saltless compared with salted butter.

R. W. BROWN: To study this question the Dairy department of the college conducted in all seven experiments. Each experiment consisted of making two churnings with equal amounts of cream containing the same per cent. butter-fat. The butter from the first churning in each experiment was salted at the rate of 5.5 per cent. of the fat therein, and worked in the usual way, and then weighed immediately on removal from the churn. That from the second churning was worked without salt, to as near as possible the consistency of the butter from the first churning and then taken from the churn and weighed. The average per cent. overrun obtained from the salted butter was 17.45, while that from the saltless was 13.37, the difference being 4.08 per cent. in favor of the salted butter. The average per cent. moisture incorporated in the salted butter was 14.77 as compared with 14.88 per cent. in the saltless, a difference of .11 per cent. in favour of the saltless. The average per cent. of salt which was retained in the salted butter was 3.29. In order to get ready sale for the butter which had been worked and weighed without salt, it was replaced in the churn, salted and worked the second time. The average per cent. overrun obtained from the saltless butter of the second churning of each experiment after being salted and worked was 17.9, the average per cent. of moisture was 15.16, while that of the salt retained was 3.81.

The question is, how much more per pound should one receive for saltless butter than for salted butter, when the difference in overrun is 4 per cent.?

According to the foregoing experiments one would get 100 lbs. salted butter, while from the same amount of cream 96 lbs. saltless butter would be obtained. If the salted butter sold for 25 cents per lb., 100 lbs. are worth $25.00. To find the price 96 lbs. butter would have to sell for to bring $25.00, divide $25.00 by 96, which equals 26.04 cents per lb. Deducting the price of the salt put in the salted butter from the price of saltless butter, which in this case is 26.04 cents per lb., would bring the price for saltless butter still slightly lower. If the difference in overrun between salted and saltless butter is not greater than 4 per cent., a difference of 1 cent. per lb. in selling price would seem to be sufficient.

MR. O'FLYNN: Is it not worth more than 1 cent. per lb. to make saltless butter? About 1½ to 2 cents.

MR. WADDELL: One cent is too small a difference.

Question 1.—(*b*) The moisture test and salt test in creamery work.

MACK ROBERTSON: Regarding the use of these tests, it seems to me that the time has arrived when every properly conducted creamery should have both salt and moisture tests. Speaking first of the moisture test: This test is useful in guiding the maker regarding the amount of moisture his butter is carrying. It is important that he should at least have 14 per cent., and the butter will not be injured should he incorporate 15 per cent. Again, it is important that makers should keep within the legal limit of water content. Overstepping this limit is liable to bring them within the clutches of the law, ruinous to both reputation and bank account. Some complaint has been heard from our butter buyers regarding the lack of uniformity in salt content of our butter. Many makers are under the impression that if they apply a uniform quantity of salt the butter will contain a uniform quantity. This is not the true guide. Much depends on conditions in the churn as to whether the butter will contain much or little of the salt applied. In some creameries, where the maker is careful to apply the salt uniformly, I have found the salt content to vary from 1.8 per cent. to 3.8 per cent. As I stated before, this wide variation is due to conditions in the churn. A soft, mushy butter or a small churning requires more salt than does ordinary hard butter, or the usual sized churn. These points can only be learned by close observation on the part of the maker and the constant use of the salt test. Lastly, let me impress on the makers the importance of the use of both tests. Many makers are inclined to use a moisture test, but not a salt test. If you do not use both use neither. A moisture test may induce you to follow a system which will get you 1 extra per cent. of moisture but lose you 1½ per cent. of salt. By all means, use both tests.

A MEMBER: Why is there this difference in salt content?

MR. ROBERTSON: Small churnings. Soft butter wastes salt. Trying to work water into butter and at the same time losing salt.

MR. HERNS: Would you advise the buttermakers to put in moisture and salt tests in the creamery?

MR. ROBERTSON: Yes.

MR. JOHNSTON: If too much salt is used how would you lessen the amount contained in the butter?

MR. ROBERTSON: Work in a little water. Using the salt test frequently will be a guide for future operations.

A MEMBER: I think it necessary to use the tests. Soft butter will retain more salt. Small churnings take less salt. If the butter is too hard, salt will be wasted.

Mr. Herns: Few creameries use the moisture or salt tests. The average moisture in Western Ontario butter is about 14 per cent. at the creameries. The scales for weighing out the sample for moisture tests cost about $16.00 and the glassware for the salt test will cost about $3.00. The weighing out of the proper quantity of silver nitrate for making the solution used in the salt test is probably the most difficult part to work out, but when the makers decide to use the test we will, if possible, make arrangements to supply the silver nitrate solution in a similar way that we are furnishing the alkaline solution to the cheesemakers. It takes from five to ten minutes to make a moisture or salt test. A salt test may be made from the residue after the moisture test is made of the same butter.

Mr. Barr: It is the intention of the Federal Dairy Department to have tests for moisture made of some of the butter offered for sale in the towns and cities, and we would not like to have to make prosecutions when the moisture content of the butter exceeds 16 per cent., but would be obliged to do so as the law limits the moisture content to this amount.

A Member: Do prints or solids show greatest loss in moisture after leaving the creamery?

Mr. Barr: Prints.

Question 2.—(*a*) Relation of acidity of milk to yield and quality of cheese.

Alex. McKay: We conducted experiments along this line in two different ways: first, receiving the milk in good condition and after thoroughly mixing it dividing it into two vats, setting one at what we considered the acidity that would produce the best results; the other half we ripened quite highly. I might say that when the work was averaged the results did not differ very much, but on looking more closely into the work we found two things, namely, that it was quite possible to set the vats too sweet as well as to ripen too low. In the first place, we found when we exceeded .22 per cent. that both quality and quantity were affected. To illustrate this I will give you one example: On a certain date we had two vats, each containing 800 lbs. of milk. One of these was set at .19 per cent. acid, the other was allowed to develop .24 per cent. of acid. The one that was set sweet gave 1 lb. more cheese of a better quality as indicated by the average score 94 as against 92. On the other hand, when the vat was set so sweet that it took more than thirty minutes for the rennet to act or coagulate sufficiently for cutting we found that we had a greater loss in the whey, also more tender texture in the cheese.

The other method of conducting this experiment was to make up the milk as received on Monday morning which arrived at the dairy in an over-ripe condition, and compare this with that delivered on the following morning which was delivered in good condition. We invariably found this milk to give a very heavy loss both in quantity and quality, even though the whole vat did not exceed about .22 per cent. in acidity. This I think is due to the action of the acid on the casein of the milk before it is delivered at the dairy, as some of the milk sent by certain individuals would be very much overripe, and in those the casein will have gone into solution, so that it is not acted upon by the rennet. When this work was averaged up at the end of the season we found that the milk in both vats or on each day tested exactly the same in both casein and fat, but the milk which was delivered in good condition gave better results both in quantity and quality. The yield of cheese from the milk delivered in good condition was 92.77 lbs. cheese per 1,000 lbs. milk, against 88.08 for the milk delivered in an over-ripe condition, or a difference of 4.69 lbs. of cheese in favor of the milk delivered in good con-

dition. There was also a difference in quality, the cheese made from the milk delivered in good condition scoring a total of 92.20 points where the other scored 90.54. This points out quite clearly that it is not only necessary to have the majority of the patrons send their milk in good condition, but we must have each and every one do so if we are going to get best results.

In the eighteen experiments conducted we used 24,941 lbs. of milk. There were 15,235 lbs. milk in A vat of the over-ripe lot testing 3.41 per cent. of fat and 2.19 per cent. of casein. There were 9,706 lbs. milk in B vat, which was the normal milk, testing 3.41 per cent. of fat and 2.19 per cent. of casein.

A summary of the results is as follows:—

	A Vat	B Vat	Difference
Lbs. of milk in vat	15235	9706	
Per cent. fat	3.41	3.41	
Casein	2.19	2.19	
Acidity at setting	.234	.178	
Time in Whey	53M.	2 hrs. 36m.	
Acidity at Dipping	.178	.17	
Lbs. green cheese	1341.58	900.39	
Lbs. cured cheese for one month	1300.58	876.89	
Lbs. shrinkage	41.	23.50	
Per cent. shrinkage	3.05	2.60	
Lbs. cheese per 1,000 lbs. milk	88.08	92.77	4.69
Lbs. milk for lb. cheese	11.71	11.06	.65
Per cent. moisture in green cheese	35.66	34.8	
Per cent. moisture in cured cheese	35.22	34.8	
Loss of moisture in one month	.44	.0	
Score.			
Flavor	36.19	37.14	.95
Closeness	14.	13.89	
Even Color	13.80	14.	
Texture	16.55	17.17	
Finish	10.	10.	
Total	90.54	92.20	1.66

The milk should be set and rennet enough used to cut in at least 30 minutes. This saves a loss of fat in the whey. Monday morning's milk did not yield as much cheese as the milk on other days on account of usually being old and over-ripe.

A MEMBER: How would you test rennet coagulation by the amount of rennet used?

MR. MCKAY: Test the acid of the rennet by the alkaline test, and watch the effect of the rennet used.

Q.—How much would you use of average rennet to coagulate the milk in 30 minutes?

A.—About 3 oz. per 1,000 lbs. of milk. The average amount of acid in rennet is about .98 per cent. We do not know what the proper acidity of rennet should be to get the best results, but it is noticed that practically all standard rennets do not have an acidity much greater than 1 per cent.

Question 2.—(*b*) Effect of salt on curds.

MR. MCKAY: We have done considerable work along this line, yet we find it very hard to say definitely what amount of salt should be applied, as this depends so much on the character of the curd, though it is quite possible to either add too much or too little. One is as bad as the other. The action of the salt is to reduce

the moisture content of the cheese, and is the last chance the maker has to adjust the moisture. If too little salt is used the cheese will have excessive moisture, and very poor keeping qualities, and is almost certain to develop bitter flavor if they are held any length of time.

On the other hand if too much salt is used the cheese is too dry and objectionable from that standpoint. We find from experiment that a cheese with a moisture content of about 34 to 35 per cent. gives the best result.

Question 3.—A Campaign among Patrons for the Storing of Ice.

PROF. H. H. DEAN: No one thing which patrons of creameries and cheeseries could do, would, at so little cost, improve the quality of cream and milk furnished for the manufacture of butter and cheese, as the storing of not less than one ton of ice per cow—two or three tons per cow would be better. The campaign should begin by locating all the natural reservoirs for water and ice in each locality, and where these do not exist, make provision for the same by excavating, or building dams. Unless the farmer can get ice handy, he is not likely to store it. He will not, as a rule, haul it three or more miles. Creamery men should make a special effort to provide ice for patrons at convenient points throughout their territory. One farmer adopted the following plan last summer to ensure a supply of water for ice on his farm. He built a dam at a stone culvert, on a small stream that runs through his farm, at a cost of one barrel of cement ($1.60) and two loads of sand and gravel (20c.) making a total cash outlay of $1.80. This together with some old lumber, nails, and labor of two men for one day built the dam. Two men and a team, with plow and scraper in two days excavated a pond about 60 by 40. If the ice freezes one foot deep, there will be about 2,400 cubic feet of ice on the pond, or about 60 tons. This will supply all the ice needed for a 25 to 30 cow dairy for cooling milk and cream. On this farm is an old horse-stable, about 16 by 20, and with about 10 feet space to the plate, and 16 feet to the peak of the roof. This has been used for two seasons to store ice, with satisfactory results. Rails were put in the bottom after tearing out the floor, on which was placed about a foot of sawdust. The ice is packed closely on this leaving about a foot of space around the walls for sawdust. After the ice is all in, the sides are packed and also a foot of sawdust placed on top of the ice. The ice keeps well in this building. Similar conditions can be found or provided on nearly every dairy farm. Most farmers would appreciate being shown how to provide ice at small cost.

MR. GOODWIN: We had difficulty in getting ice for our creamery, and finally we followed the plan tried by the Silverdale Creamery. We dug out a space 3½ feet deep, 170 feet long by 70 feet wide and allowed the water off the roofs of the buildings to run into this pond. This in addition to the natural rain water gave us plenty of ice each year.

MR. NEWMAN: If the outlet over the dam is properly guarded so that spring freshets do not injure the dam a creek dammed in the way mentioned by Prof. Dean makes a very satisfactory ice pond. We know of one party who has such a pond which provides plenty of ice for himself, and he sells some to the neighbours.

A MEMBER: What do you use for packing ice?

MR. NEWMAN: Sawdust and cut straw.

Question 4.—Paying for Cream by Grade.

GEO. H. BARR: Notwithstanding the extensive educational work which has been done among patrons of creameries, there is still a very large percentage of the cream delivered to the cream gathering creameries which is second grade,

the result of which is a large quantity of second grade butter being made. Grading the cream at the creameries in Alberta and Saskatchewan has made a decided improvement in the quality of the butter in two years and I am quite satisfied the same results would be obtained if the system was adopted in the Eastern Provinces. If we are going to compete successfully in the Western butter markets, we must do two things: (*a*) manufacture a finer quality of butter, and (*b*) make shipments of more uniform quality. Our shippers will have to exercise greater care in making up more uniform carload lots, and I am quite convinced that the creamery men would improve the quality of the butter more quickly by adopting a system of grading the cream than in any other way. The following figures will show what was accomplished in an Alberta creamery last year by grading the cream and paying a premium of 4 cents for first grade. The butter was shipped to the Government Cold Storage, Calgary, and graded by members of the Dairy Commissioner's staff. Grading the cream was commenced on July 1st, and the following figures show the quality of the butter in four shipments before grading the cream was commenced and in seven shipments when the cream was being graded.

Shipments.	Per cent. of make in grade.			
	Specials.	First.	Second.	Off Grades.
4 lots before grading	2.8	38	55	4.2
7 lots after grading	63.3	34	1.7	.9

The buttermaker states that he did not receive more than one or two cans of a second grade cream from any one patron after grading was commenced. This is effective work in getting good cream. The cream haulers take a four ounce sample of the cream at the farm and the butter maker grades the cream from these samples at the time he is taking the required quantity out for the composite test. The standards for grading the cream at most of the creameries are as follows:

First Grade. Cream, preferably sweet, from which first-class butter can be made by a competent buttermaker. The flavor to be clean and fresh, and consistency smooth and even.

Second Grade. Cream, sour or sweet, which is slightly old or stale, or bitter in flavor, but of a smooth and even consistency.

Cream which is not clean, which is lumpy, very stale or old, bitter or musty in flavor should not be accepted.

I believe the grading of cream is a question of very great importance to the creamery industry to-day, and as I intend to take up the subject more fully at the Dairymen's Convention in January, I will not take up more of your time now.

Q.—Is it possible under Western Ontario conditions for a creamery man to pay different prices for cream?

A. —It can be done.

Q.—Would it not be necessary to consult the patrons?

A.—It might be better.

Q.—In the grading system out West are the samples tested for acidity?

A.—No.

Q.—How old was the butter you saw in the West?

A.—Two to three weeks old.

Mr. Herns: This is the fourth time this question has been up for discussion at the Annual District Meetings. There is no question that we must have a greater percentage of high-grade butter to meet the growing demand for fancy quality. It would seem that the time has arrived when buyers should be expected to make greater discrimination in the price between first and second grade butter. If this was followed out consistently for a few years, it would tend towards cream grading, and help to bring about the improvement in quality which is so much desired. There appears to be a world wide demand for improvement in butter quality, and there certainly should be a wide difference in the value of different butters which should be met by a difference in price in favor of the good butter. I am securing samples of Alberta, New Zealand, Danish and United States butter for the Convention, and you will have the privilege of examining these different lots of butter and making a comparison with your own.

Question 5.—Pasteurization of Milk for Cheesemaking.

Alex. McKay: We have done some work along this line, but the results have not been very satisfactory from the standpoint of quality. The method of conducting this work was to pasteurize the milk to a temperature of 160 deg. F. and cool it immediately to the setting temperature. It is a well known fact, that if milk is heated to pasteurizing temperature the rennet will not act properly, so that to overcome this action the milk was acidated to the per cent. of acid which the milk had when it was received and was increased to .25 per cent. on the assumption that this would represent the acidity at the time of dipping, had the curd not being precipitated. For example, if the milk showed .17 per cent. when it was received at the factory it was after pasteurizing raised to .25 per cent. by the addition of normal hydrochloric acid. In making the cheese after the milk has been treated a time table is followed which works out very well. The finished cheese contain altogether too much moisture from a cheddar standpoint. The flavor remained somewhat insipid, lacking the characteristic cheese flavor, though we held them about eight months.

Mr. Johnston: I had the privilege of scoring a number of cheese at Madison made from pasteurized milk, and found these cheese with a high moisture content without a Cheddar flavor, and would not consider them fit for our export trade.

Prof. Harcourt: The extra yield of cheese made from pasteurized milk is chiefly made up of moisture.

Mr. Herns: I scored the experimental cheese made at the school from pasteurized milk, and would say that they would not be suitable for our export trade.

Mr. McKay: These cheese sold at a reduced price.

Question 6.—(*a*) Composite samples or daily testing.

J. B. Smith: It may be that composite samples work out quite satisfactorily where the cream is delivered to the creamery in individual cans, the maker weighing and taking the samples, but I do not think I can speak too strongly in favor of daily testing. It is always good business to know each day exactly in what proportion the butter yield compares with the pounds of fat. (Namely, salt and moisture). In my personal experience I have found it is the only way to keep strict tab on the work of the drawers of the cream (namely, weighing and sampling). So I have found it to be better for the patrons, the manufacturer, also for the honest cream drawer who is trying to do his work correctly. It necessarily makes more work, but I feel that under such conditions the factory man is well remunerated even at considerable extra cost.

Mr. Newman: We do the testing monthly at my creamery. In July and August we did some testing to check out the loads of some of the haulers. I wish, however, to do some experimental work next year on this point.

Mr. Holmes: We pay for all our cream on a daily test and find it very satisfactory.

Mr. Treleaven: We test all our cream samples daily and would not care to run our business any other way.

Mr. Herns: There are seven creameries in Western Ontario that test the cream samples daily.

A Member: I have tried daily testing, and find that I have considerable trouble with the patrons on account of the variation in the test from day to day.

Mr. Cameron: The first season we discarded the oil test and changed to the Babcock test, we tested the samples only once per month. We had considerable trouble on account of the patrons not getting a report of their cream test from day to day. Therefore, we changed to daily testing, and have followed this plan for four years, and find it very satisfactory. We have 207 patrons, we use the scale for weighing out the sample, test daily, and I do the work myself.

A Member: What do you do in your spare time?

Mr. Cameron: The cream from the 207 patrons is not all delivered each day. We have from 50 to 60 samples per day.

Mr. McQuaker: We would require an extra man at our creamery if we practised daily testing, as we have 400 patrons, this would mean about 100 tests per day.

Mr. McFeeters: I would like to say, where creameries are getting along satisfactorily by testing the samples monthly, that from personal experience I could not recommend daily testing. If samples are taken from time to time from the different loads in order to check up the sampling of the haulers I think it would meet all requirements.

Question 6.—(*b*) Preservatives for Composite Samples.

Mr. Brown: Two preservatives for composite cream samples were used at the Dairy Department of the College during the past summer:

(1) The 3 to 1 preservative consists of a mixture of three parts of bichromate of potash and one part of bichloride of mercury (corrosive sublimate). The amount of this mixture used in each sample was that which will conveniently lie on a Canadian five cent piece, or as near that amount as possible.

(2) A second preservative used was 5 c.c. of creosote for pint samples. Creosote is a mixture of chemical compounds contained in wood tar.

Four lots of samples of one patron's cream were made: two preserved with the 3 to 1 preservative and two with 5 c.c. of creosote in each sample. Half the samples preserved with each of the aforementioned preservatives were held in the cold storage at an average temperature of 40 deg. F., the remaining half were held in an ordinary room. The creosote was found in each case to be the best preservative so far as keeping the samples smooth and free from mould was concerned; it also has a further advantage—that is, when making the test for fat two-thirds the usual amount of acid is sufficient to give good readings. The usual amount of acid invariably gave burnt readings. Both groups of samples which were held in cold storage kept in first class condition. Of those held in the ordinary room the group preserved with the 3 to 1 mixture developed some mould during the months of July and August, while those preserved with 5 c.c. of creosote developed only a very slight amount if any mould, and were of a smooth even consistency

when tested. One objection to the use of creosote as a preservative is its disagreeable odor, but this is not at all serious after one uses it a few times. As creosote gives no color to the composite sample, its characteristic odor is a good point in its favor, and a noted chemist says the odor is quite harmless. The high price of the creosote as compared with the 3 to 1 preservative is probably the main objection to its extensive use. Prof. W. O. Walker, Queen's University, Kingston, advises the use of "beechwood" creosote, and says that the price is about 90 cents per lb. wholesale. At a local druggist's the price for the "beechwood" brand varies from $1 to $2.40 per lb., according to quality. At 90c. per lb. using 5 c.c. per pint sample the cost would be one cent each. At $2.40 per lb. the cost per sample would be 2.67 cents. The 3 to 1 preservative costs about 58c. per lb. Using 1 gram per pint sample, a lb. will preserve 454 samples of milk or cream. This means a cost of .12 cents per sample.

Question 6.—(*c*) Inspection of Metric Cream Scales.

Mack Robertson: Scales to be used in weighing the samples of cream for the test have been recommended by the instructors and practically all dairy authorities for some time. After trying the different makes offered for sale we had at last decided that a certain make of scale was the best. However, recent experience has upset some of our faith in the belief that any particular make is the best. To illustrate: I would like to give one personal experience with cream scales. One creamery man in my group bought a scale and after using it for some time it got out of order. He had to send it back to the manufacturers in New York to have it repaired. While scale No. 1 was away being repaired, the creamery man bought a new scale to have for use in just such emergencies. This new scale we will call No. 2. While the creamery man was using scale No. 2, along came the scales inspector of the Weights and Measures Department. The scales inspector condemned scale No. 2, although it had passed inspection at the Department at Ottawa and was government stamped. When next I visited this particular creamery, the proprietor was in the predicament of owning two scales, neither of which he could use. One was away for repairs, the other condemned. I tested the scale which was condemned (No. 2) and according to our weights found it correct. In the meantime scale No. 1 arrived at the Customs Office. I secured this scale, which was just returned, and found on testing it that it was away wrong. Naturally it would be expected to be right, just arriving from the manufacturers; but it was far from right. I was told that the weights inspector had in testing scale No. 2 placed a 2 lb. weight on each end of the scale at the same time. If this was the case, it would be no wonder that he condemned the scale, as the total weight that it is supposed to carry is about 2 pounds. I am not able to confirm this statement, however, as the creamery man was not positive. After I had tested scale No. 2, the Weights and Measures Inspector returned and again tested the scale. He stuck to his guns by still claiming the scale was wrong. Thus we have the peculiar situation of the Department at Ottawa saying that the scale was right, the scales inspector saying that the scale was wrong, myself testing the scale and claiming that it was right, and lastly the scales inspector again calling and claiming that the scale was wrong. Whether the scale is right or wrong seems to be an open question. One thing that we do know, however, is that something is wrong, and that the "scale question" is not yet right. In conclusion I would say that the use of scales is very important, but it is still more important that the scales as well as principle of them are right.

A good scale is much more accurate than a good pipette; a good pipette is much more accurate than a poor scale.

Question 6.—(*d*) A Standard cream Test Bottle.

J. A. McFeeters: The fact that many men have many minds is responsible for the placing on the market of many types of Babcock cream test bottles. Should there not be some *standard* bottle? There may be special conditions under which some particular design of bottle may be an advantage, possibly a convenience and perhaps a necessity, but under average creamery conditions with the type of turbine in general use a 6-inch cream bottle graduated to read 40 per cent. is the most satisfactory. The diameter of the neck should be such as will cause the scale or graduated portion to extend over at least 2½ inches. This makes a reasonably close or fine reading possible. There are very few conditions which this bottle will not meet satisfactorily, and we would strongly recommend its adoption as the *standard cream bottle.*

Reasons.—One or more of the following: In the first place a bottle graduated to read 30 per cent. has not sufficient capacity for much of the cream received at a creamery, while bottles graduated to read 50 per cent. necessitate a neck rather wide to permit of accurate work.

Secondly, bottles containing a bulb in the centre of the neck are inclined to be fragile, more or less top heavy and are not so easily operated. Sometimes there may not be sufficient fat to entirely fill this bulb and at other times the fat may be raised so high by the addition of hot water that the lower points of the fat may be raised beyond the lower point of the bulb, thus rendering an accurate reading impossible.

In the third place, test bottles designed for the use of 8 gram charges require rather too minute handling for the training of the average dairyman, since any error in weighing or in reading the sample is in reality doubled because the Babcock test is based on the assumption that 18 grams of the product tested shall be used.

Dairymen have reason to appreciate the work which has been done by the Department of Agriculture in making it possible for all Babcock glassware to be certified, without adding materially to the cost of the goods, and we would strongly recommend that the next movement along this line be in the direction of adopting a cream bottle such as will be officially recognized as a *standard* cream bottle.

Mr. Herns: Recognizing the disadvantages of having so many different styles of cream test bottles on the market, and believing that it is important that we should have some standard bottle, I brought up the matter for discussion last year, pointing out by the use of sample bottles the different styles on the market, and suggested that you think over the matter and come to this meeting prepared to recommend some special bottle as a standard. Mr. McFeeters recommends a 40 per cent. bottle, and gives excellent reasons for the adoption of this style of bottle. If you are prepared to recommend this bottle as a standard I would be glad to have some expression of opinion in the form of a resolution; or you may prefer to let the matter stand over until the next meeting when perhaps we would be in a better position to come to some understanding regarding this point.

Mr. Singleton: If an error is made in weighing out a 9 gram charge for the test a double error is made in reading the results.

Question 6.—(*e*) Over-reading and Under-reading the Test.

JOHN H. SCOTT: The thought that I wish to emphasize on this point is, that while I believe in legislation governing the over and under reading of tests, before we can ask in good faith for such legislation we must have some means of deciding definitely who is qualified to read or make tests correctly. After an experience of 20 years with the Babcock test, using it continually for that time, I am not able to get nearer than 2 per cent. and as much as 4 per cent. difference (below) with tests made on same samples of cream sent to the O. A. C., Guelph. We also found that a dairy expert and perfectly qualified man as we believe our instructor, Mr. McMillan, to be, gave a reading 2 per cent. lower than was reported on same cream from Guelph, but that by using a preservative in cream sent to Guelph he received a report of test corresponding with test made at the farm. Now the question is, was it the fact of the preservative being added which kept the sample in better condition until its arrival at Guelph, or was it faulty sampling either at the farm or at Guelph, or where was the weakness?

MR. MCMILLAN: If the sample is partially churned or contains lumpy cream it will be much more difficult to get an accurate sample of the cream.

MR. SMITH: The bottles in which the sample is sent should be filled.

MR. NEWMAN: I have had a similar experience to that of Mr. Scott on samples sent to the college for comparative tests.

PROF. DEAN: Our testing is all done by efficient employees and ought to be correct.

MR. SINGLETON: What is your method of reading the test?

PROF. DEAN: On a 50 per cent. cream bottle I read one-half of the miniscus. There are too many different kinds of cream test bottles, and we should decide on some standard bottle and adopt this for all practical purposes.

MR. ROBERTSON: I read the fat from the bottom of the miniscus of all cream samples.

MR. SINGLETON: I think that if oil is used on top of the fat in the cream test bottle no difficulty will be found in deciding on the proper point to read from. Common sewing machine oil can be used.

MR. BROWN: The temperatures should be correct—140 degrees.

MR. MCKAY: I would suggest that preservative be used in all samples sent to the College for testing.

PROF. DEAN: When 40 or 50 per cent. cream test bottles are used I think we should include one-half of the miniscus. The tendency is to read Babcock samples too low.

MR. SINGLETON: Miniscus would mean in cream samples (50 per cent. bottle) about 1 per cent.

MR. NEWMAN: We should have some system that will give the creamery men a chance to come within 1 per cent. at least of the reading of fat in comparison with samples sent by the patrons to the College.

MR. HERNS: The question of over-reading or under-reading of samples of milk or cream is very important. Legislation on this point would be a good thing provided we can finally come to some understanding in connection with the sampling and reading. We will leave this matter for discussion again next year and I think it can be safely said that all the creamery men expect from the College is that when cream or milk samples are received to be tested care should be exercised regarding any samples that are not in a proper condition to be sampled and a report forwarded to the sender describing the condition of

the sample, and also that such samples should be discarded and not tested at all under these conditions.

Question 6.—(*f*) "Creamery Competition" was overlooked.

Question 7.—Best Methods of Cooling Cream at the Creamery.

D. McMillan: During the warm weather a large amount of cream was not properly cooled before churning, and our object in making the experiments was to try and find the best method of cooling cream quickly. The amount of ice and time required with an ordinary cream vat to cool 1,700 lbs. of cream from 72 deg. to 55 deg. was 390 lbs., and time spent stirring cream was 2 hrs. and 35 min. This method I consider too slow, as most of the buttermakers cannot spend this much time stirring one vat of cream. The amount of ice, salt and time to cool 1,783 lbs. of cream from 74 deg. to 48 deg. with brine tank and cooler was, of ice 382 lbs., salt 61 lbs. and time required 32 minutes. Another experiment with 1,507 lbs. of cream at a temperature of 80 deg. required 417 lbs. of ice, 47½ lbs. of salt and 43 minutes time to reduce this to 46 deg. when all in vat. This cream was allowed to stand in the vat without water around it for 17 hours, room temperature 70 deg., then churned at a temperature of 57 deg. with a loss of fat in the buttermilk of .16 per cent. The average loss of fat in buttermilk for my group is on the increase. This I think is due to the fact that a number of buttermakers are careless about cooling their cream properly and quickly.

Mr. Herns: A full report of the experiments on cream cooling will be found in the report of the chief instructor on page 93 of the Dairymen's Association Report of Western Ontario Convention at Stratford.

Question 8.—Demonstration of Walker Casein Test. Time did not permit of having this demonstration.

Question 9.—Beautifying the Surroundings of Cheese Factories and Creameries.

Prof. H. H. Dean: We have reached a stage in the manufacture of cheese and butter in Ontario factories when it is advisable to improve the factory surroundings—when we should "dress up." The first step is to clear away all rubbish, weeds, etc., and level the ground, after providing the necessary drives and walks. If the soil is not good, it should be fertilized, or have good soil mixed with the top layer after levelling. This ground should be raked fine, and then be seeded with a good lawn-grass mixture supplied by some reliable seed firm. Sow plenty of seed. Keep the weeds down to give the grass a start, and water if necessary to start the grass or keep it growing in case there is a dry spell before or after seeding. Unless it is an exceptionally good season, little or no cutting will be necessary the first year. The second year it should be cut regularly with a lawn mower. The edges of drives and walks should be trimmed, and the whole kept as neat as possible. Walks and drives should be kept in good order and free from weeds. Trees and shrubs should be planted along the borders but not as a rule in the centre of a lawn. Flower-beds, shrubs, etc., look best near the buildings or along the edges. A perennial flower border takes little care and looks quite as well as the showy annuals, which make considerable labor in growing and transplanting. We would suggest that a few prizes be given for the best kept factory lawns. It would be money well spent. This plan is followed by local horticultural societies with good results in towns. These societies would be glad to assist factorymen with advice, and material to some extent.

REPORTS OF THE DAIRY SCHOOLS, 1913-14

DAIRY SCHOOL, ONTARIO AGRICULTURAL COLLEGE, 1914.

G. C. Creelman, B.S.A., M.S., LL.D., *President.*

Staff of Lecturers, Demonstrators and Instructors.

H. H. Dean, B.S.A.	Professor of Dairy Husbandry.
R. Harcourt, B.S.A.	Professor of Dairy Chemistry.
H. L. Fulmer, B.S.A.	Demonstrator in Dairy Chemistry.
S. F. Edwards, M.Sc.	Professor of Dairy Bacteriology.
D. H. Jones B.S.A.	Demonstrator in Dairy Bacteriology.
Alex. McKay	Instructor in Cheesemaking.
G. Travis	Instructor in Cream Separators, Piping, Soldering, etc.
R. W. Brown, B.S.A.	Instructor in Milk and Cream Testing.
D. McMillan	Instructor in Buttermaking and Ice Cream Manufacture.
Miss Belle Millar	Instructress in Farm Buttermaking, Home and Fancy Cheesemaking, Farm Dairy.
J. B. Smith	Instructor in Milk and Cream Testing and Hand Separators, Farm Dairy.

The following short Courses in Dairying were held at the Ontario Agricultural College, Guelph, during the season of 1914.

	No. Registered.
Twelve weeks' course for Cheese and Butter Makers and Farm Dairymen	72
One week course for Farm Cow-testing and Official Cow-testers	38
" " Ice Cream Manufacture	19
" " Western Ontario Dairy Instructors	8
Total Registration	137

The dairy courses for 1914 were similar to those of 1913, except that the Farm and Official Cow-testing courses were combined in one course, as it was thought that the owners of cows and those doing official testing might profitably work together. The results were quite satisfactory, except that our laboratory for milk-testing is so small that we cannot accommodate more than 12 or 15 students comfortably. With a class of 38, we had to divide them into two sections and take one class in the Farm Dairy. For 1915 it is proposed to put on a registration fee of one dollar for this and the Ice-cream course, as we have more students applying for these free courses than we have accommodation for. In fact our buildings and equipment for dairy instruction is altogether too small, and while we are doing the best we can under the circumstances, it is hoped that a larger and better plant will be forthcoming in the near future.

While it is true that building and equipment do not make a College or a Dairy School, and that the men and women comprising the staff are the main requisites for any educational institution, it is a fact that the nature of the plant has much to do with the character of the manufactured goods—in this case men and women who are equipping themselves for the production of better dairy products.

Our Dairy School Staff is an excellent one and have done much—all that they possibly could do—to make the Dairy Courses interesting and profitable to our students. We regret very much to have lost the services of Alex. McKay, Demonstrator in Cheesemaking, who has been with us a number of years, and whose valued services have been much appreciated by the Ontario Agricultural College and by the Cheesemakers of Western Ontario.

At the time of writing this (Sept., 1914) we are unable to state who will take his place but we shall endeavor to secure the best cheese man available for the Courses of 1915, which we anticipated will be as good, or better, than those of 1914, because prices of all kinds of dairy products have materially advanced since a year ago.

This will stimulate farmers to produce more milk, which means increased demand for cheese and butter makers, milk-testers and all those connected with the dairy business—and at better wages. Our dairy farmers, most of all need the encouragement of higher prices for milk and cream; then all others will soon feel the good effects of a stimulant to the men on the farm who are the foundations of the dairy business.

H. H. Dean.

EASTERN DAIRY SCHOOL.

OFFICERS AND STAFF.

Director.—G. A. Putnam, B.S.A., Toronto.
Superintendent.—L. A. Zufelt, Kingston.

Staff of Lecturers and Instructors

L. A. Zufelt ..... Dairy Lectures.
J. H. Echlin ..... Instructor in Cheesemaking.
W. G Gardiner ..... Assistant in Cheesemaking.
W. W. Dove ..... Instructor in Buttermaking.
R. E. Elliott ..... Assistant in Buttermaking.
J. Burd ..... Instructor in Separators.
D. J. Cameron ..... Instructor in Milk-testing.
W. T. Connell, M.D. ..... Bacteriologist.
W. O. Walker, M.A. ..... Chemist.
J. A. Craig ..... Engineer.
Ethel Lake ..... Office Assistant.

The School opened on Dec. 8th for a short course of two weeks, at which 25 students registered. This course was designed principally for review work for old experienced makers.

The regular long course opened on January 2nd and closed on March 21st. The total attendance at this course numbered 36, five of whom re-registering after attending the Short Course.

The following is the total attendance at all courses:

Short course, December 8th to December 20th	25
Long course, January 2nd to March 21st	36
Instructors course, March 22nd to March 27th	22
Total	83

Of the students attending the regular long course, 19 wrote on the examinations, 17 being successful in passing all examinations. Of this number 5 obtained 1st class honors.

Besides the regular course of instruction, a limited amount of investigation work was undertaken regarding the manufacture of cheese from pasteurized milk. Whilst this work was not exhaustive enough to base absolute conclusions upon, yet certain facts were obtained which may be summarized as follows:

That it is possible to get perfect coagulation of the milk without the aid of commercial acids.

That the pasteurizing temperatures influence the amount of moisture which may be retained in the cheese.

That the cheese made from milk, pasteurized at the higher temperatures, has a tendency to lose this excess moisture later, when held at ordinary curing room temperatures for any considerable period.

That the cheese, especially those made under the higher temperatures, lacks that characteristic cheesy flavor.

That the gain in yield, when quality of product is one of the chief objects, is hardly sufficient to equalize the extra cost of manufacture.

The demand for official "Record of Merit" supervisors still continues to grow, so much so, that it has been decided to give special instruction in the future to those wishing to take up this branch of the dairy work.

The creamery conducted as a separate department of the School is steadily increasing its output and is giving general satisfaction to the dairy farmers who patronize it.

SUMMARY OF LAST YEAR'S OPERATIONS.

Total lbs. of butter made for the year ending December 31st, 1913 ..	130,712
Total amount received for sale of same	$36,435 56
Total sales of cream and buttermilk	931 53
Average selling price per lb. of butter	27.8 cts.
Average price per lb. of fat paid patrons	31.4 cts.

ANNUAL REPORTS

OF THE

Live Stock Associations

OF THE

PROVINCE OF ONTARIO

1913

Horse Breeders' Association
Cattle Breeders' Association
Sheep Breeders' Associations
Swine Breeders' Associations

Ontario Poultry Associations
Ontario Provincial Winter Fair
Eastern Ontario Live Stock and Poultry Show

Published by the Ontario Department of Agriculture, Toronto

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO

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1914

Printed by
WILLIAM BRIGGS
29-37 Richmond Street West
TORONTO

To His Honour Sir John Morison Gibson, Knight Commander of the Most Distinguished Order of St. Michael and St. George, a Colonel in the Militia of Canada, etc., etc., etc.

Lieutenant-Governor of the Province of Ontario.

May it Please Your Honour:

The undersigned begs to present herewith for the consideration of His Honour the Reports of the Live Stock and Poultry Associations for 1913; also the Reports of the Provincial Winter Fairs.

Respectfully submitted,

James S. Duff,

Minister of Agriculture.

Toronto, 1914.

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Ontario Horse Breeders' Association

ANNUAL MEETING.

The annual meeting of the Ontario Horse Breeders' Association was held in the Walker House, Toronto, on Thursday, February 6th, 1913, at 10.00 a.m.

The minutes of the previous meeting were confirmed.

The financial statement was presented by the Treasurer and was adopted.

FINANCIAL STATEMENT.

For the year ending December 31st, 1912.

Receipts.

Cash on hand as per last Report	$695 00	
Memberships, Canadian Clydesdale Association	210 00	
Memberships, Canadian Standard-bred Association	15 00	
Memberships, Canadian Shire Association	15 00	
Memberships, Canadian Thoroughbred Association	15 00	
Memberships, Canadian Hackney Association	15 00	
Memberships, Canadian Percheron Association	15 00	
Memberships, Canadian Pony Association	15 00	
Canadian Clydesdale Association, for Horsemen's Dinner	125 00	
Canadian Horse Association, for Horsemen's Dinner	115 00	
		$1,235 00

Expenditures.

Directors' Expenses	$220 50	
Dinner to Horsemen	360 00	
Grant, Eastern Ontario Live Stock and Poultry Show	100 00	
Grant, Open Air Horse Parade	25 00	
Printing	8 75	
Cash on hand	520 75	
		$1,235 00

Examined and found correct,
this 3rd day of February, 1913.

(Signed) G. DEW. GREEN,
Auditor.

(Signed) WM. SMITH,
President.

(Signed) A. P. WESTERVELT,
Treasurer.

OFFICERS FOR 1913.

President ..... WM. SMITH, M.P., Columbus.
Vice-President ..... JOHN A. BOAG, Queensville.
Secretary-Treasurer ..... A. P. WESTERVELT, Parliament Buildings.
Executive Committee ..... JOHN GARDHOUSE, Highfield.
GEORGE GORMLEY, Unionville.
LIEUT.-COL. D. MCCRAE, Guelph.

DIRECTORS.

From the Canadian Clydesdale Association.

Wm. Smith, M.P., Columbus.
John A. Boag, Queensville.
Adam Scharf, Cummings Bridge.
Geo. Gormley, Unionville.
Wm. Graham, Claremont.
James Torrance, Markham.
Jas. Henderson, Belton.
T. H. Hassard, Markham.
Peter Christie, Manchester.
R. E. Gunn, Beaverton.
A. E. Major, Whitevale.
T. D. Elliott, Bolton.
Robert Graham, Bedford Park.
Walter Milne, Green River.

From the Canadian Shire Association: John Gardhouse, Highfield; J. M. Gardhouse, Weston.

From the Canadian Hackney Association: J. W. Allison, Morrisburg; Harry Boag, Barrie.

From the Canadian Thoroughbred Association: Wm. Hendrie, Hamilton; Lt.Col. D. McCrae, Guelph.

From the Canadian Standard-Bred Association: O. B. Sheppard, Toronto; Geo. Pepper, Toronto.

From the Canadian Pony Society: H. M. Robinson, Toronto; T. A. Cox, Brantford.

From the Canadian Percheron Association: E. C. H. Tisdale, Beaverton; John Hawthorne, Simcoe.

Representatives to Fair Boards.

Canadian National Exhibition: Wm. Smith, M.P., Columbus.

Western Fair, London (1914): Jas. Henderson, Belton; Geo. Charlton, Duncrief.

Ontario Provincial Winter Fair: Wm. Smith, M.P., Columbus; Jno. A. Boag, Queensville; Geo. Pepper, Toronto; Peter Christie, Manchester.

Eastern Ontario Live Stock and Poultry Show: Wm. Smith, M.P., Columbus; Adam Scharf, Cummings Bridge; J. W. Allison, Morrisburg; Robert Graham, Bedford Park.

It was moved by John A. Boag, seconded by Lt.-Col. McCrae, "That Mr. G. DeW. Green be Auditor for the ensuing year, and that the Treasurer's action in having him audit the accounts for this year be approved." Carried.

Moved by Lt.-Col. McCrae, seconded by John Bright, "That the question of grants be left to the Executive." Carried.

The meeting then adjourned.

DIRECTORS' MEETING.

A meeting of the directors was held immediately after the annual meeting, at which the officers were elected.

Moved by John Gardhouse, seconded by Geo. Gormley, "That the Association make a Grant of $25.00 to the Open Air Horse Parade." Carried.

Moved by Geo. Gormley, seconded by James Henderson, "That the President of this Association be empowered to act in conjunction with the President of the other Live Stock Associations, in apportioning the deficit in the Association car account among the different Associations." Carried.

The meeting then adjourned.

Dominion Cattle Breeders' Association

ANNUAL MEETING.

The annual meeting of the Dominion Cattle Breeders' Association was held at the Walker House, Toronto, at 3 p.m., Monday, February 3rd, 1913.

Moved by JOHN BRIGHT, seconded by LT.-COL. MCCRAE, "That as the minutes of the previous meeting had been published they be adopted." Carried.

FINANCIAL STATEMENT.

For the year ending December 31st, 1912.

Receipts.

Cash on hand as per last Report	$522 99	
Memberships, general	39 00	
Memberships—		
Holstein Friesian Association, 1912	150 00	
Canadian Ayrshire Association, 1912	127 50	
Canadian Hereford Association, 1911	36 50	
Canadian Hereford Association, 1912	27 50	
Aberdeen-Angus Breeders' Association, 1912	4 50	
Galloway Breeders' Association, 1912	3 00	
		$910 99

Expenditures.

Directors' Expenses	$1 50	
Grant, Ontario Provincial Winter Fair, 1911, Canadian Hereford Association	36 50	
Printing Notices for Annual Meeting	9 00	
Cash on hand	863 99	
		$910 99

Examined and found correct,
This 1st day of February, 1913.

(Signed) JOHN GARDHOUSE,
President.
(Signed) A. P. WESTERVELT,
Treasurer.

(Signed) G. DEW. GREEN,
Auditor.

Moved by LT.-COL. MCCRAE, seconded by R. J. MACKIE, "That the Financial Statement, as read by the Treasurer, be adopted." Carried.

Moved by JOHN BRIGHT, seconded by R. J. MACKIE, "That the Presidents of the Dominion Swine Breeders' Association, the Dominion Sheep Breeders' Association, the Dominion Cattle Breeders' Association, the Ontario Horse Breeders' Association, and the Ontario Sheep Breeders' Association, be a Committee, to adjust deficit, re Association cars, and that cars be sent out at regular intervals as last year." Carried.

Lt.-Col. McCrae reported that a satisfactory solution of the question of a Live Stock shipping contract appeared to be in sight, although it was admitted that it might be necessary to submit the question to the Dominion Board of Railway Commissioners.

Moved by Lt.-Col. McCrae, seconded by W. A. Dryden, "That Mr. G. DeW. Green be appointed auditor for next year, and that the action of the Treasurer in having him audit the accounts for 1912 be approved." Carried.

Moved by W. A. Dryden, seconded by James Bowman, "That this Association go on record as requesting the Dominion Minister of Agriculture to have Regulations passed requiring animals entering Canada for exhibition purposes from the United States to pass the Tuberculin Test within six months of the time of entry." Carried.

Dr. Torrance, the Veterinary Director-General, spoke with reference to Bovine Tuberculosis, outlining the steps taken to establish a record of Health, which is being done in some countries.

Moved by Lt.-Col. McCrae, seconded by James Bowman, "That the Representatives from different Breed Associations be accepted as Directors of this Association." Carried.

DIRECTORS.

Ontario Agricultural College: Prof. G. E. Day, Guelph.
General Director: John Gardhouse, Highfield.

Representatives to Fair Boards.

Canadian National Exhibition: John Gardhouse, Highfield.
Western Fair (London), 1914: A. W. Smith, Maple Lodge; A. E. Meyer, Guelph..
Central Canada Exhibition: W. A. Wallace, Kars; R. J. Mackie, Oshawa.
Ontario Provincial Winter Fair: W. A. Dryden, Brooklin; John Gardhouse, Highfield; W. W. Ballantyne, Stratford R. S. Stevenson, Ancaster.
Eastern Ontario Live Stock and Poultry Show: Peter White, Pembroke; J. H. Grisdale, Ottawa; W. F. Stephen, Huntingdon, Que.; John Gardhouse, Highfield.

The meeting then adjourned.

Dominion Sheep Breeders' Association

ANNUAL MEETING.

The annual meeting of the Dominion Sheep Breeders' Association was held in the Temple Building, Toronto, at 9 a.m., Friday, February 7th, 1913.

The minutes were read and adopted.

The Directors' Report, presented by the Secretary, and the Report of the Special Sheep Committee, by R. H. HARDING, were adopted on motion of Messrs McCRAE and LLOYD JONES.

REPORT OF THE DIRECTORS.

The following is a statement of the monthly receipts at the Record Office on account of Sheep in 1912, including both registration and membership:

January	$ 98 74	July	$119 05
February	115 40	August	498 35
March	90 05	September	538 60
April	88 95	October	284 00
May	51 40	November	310 70
June	71 80	December	259 90

The following is a statement by Provinces of Registrations, transfers, and membership received at the Record Office in 1912.

Province.	Registrations.	Transfers.	Duplicate and new certificates.	Membership paid at Ottawa.
				$
Ontario	1,972	113	6	137 00
Manitoba	149	32	.....	11 00
Saskatchewan	93	103	1	5 00
Alberta	324	55	8	22 00
British Columbia	77	1	.....	7 00
Quebec	927	351	62	192 00
New Brunswick	35	3	.....	7 00
Nova Scotia	41	14	15	9 00
Prince Edward Island	71	8	.....	3 00
United States	286	8	.....	5 00
	3,975	688	92	398 00

The number of each breed of sheep recorded in 1910, 1911 and 1912 is shown in the following statement:

	1910	1911	1912
Shropshires	862	1,059	1,418
Leicesters	586	691	806
Oxford Downs	221	436	476
South Downs	23	37	176
Cotswolds	175	182	232
Lincolns	78	73	68
Suffolks	32	1,150	204
Hampshires	40	.....	112
Dorset Horns	46	67	88
Cheviots	.....	3	48

Statement of Record Office.

Cash received at the National Record Office and deposited in the Imperial Bank to the credit of the Dominion Sheep Breeders' Association.

January 1st to December 31st, 1912.

For Registrations and Memberships	$2,526 94
Interest	191 55
	$2,718 49

Receipts and Expenditures for Conducting Sheep Records.

Receipts.

From Record Committee Fund	$817 40
Balance owing to Record Committee by Association	947 29
	$1,764 69

Expenditures.

Salaries to December 31st, 1912	$1,634 80
Refunds to " 31st "	120 09
Audit to " 31st "	9 80
	$1,764 69

(Signed) JOHN W. BRANT, Accountant.

(Signed) GEO. L. BLATCH, F.C.A., Auditor.

The number of members of the Sheep Breeders' Association in 1912 is as follows:

Ontario	181	Alberta	21
Quebec	192	New Brunswick	7
Manitoba	12	Nova Scotia	7
British Columbia	5	Prince Edward Island	4
Saskatchewan	6	United States	5

Outside of the Sheep Sales, the ordinary receipts and expenses of the Association practically balance, and as in the expenses is included a division of profits of registrations and memberships for 1911, the Association is in a position similar to last year to make the same division. It is suggested that $500 profits from registrations and $440 in memberships should be divided as follows:

—	1912 Memberships to be Refunded.	Profits from Registrations in 1912.	Total to be Refunded.
	$ c.	$ c.	$ c.
Ontario	181 00	267 20	448 20
Quebec	192 00	125 65	317 65
Manitoba	12 00	20 20	32 20
British Columbia	5 00	10 45	15 45
Saskatchewan	6 00	12 60	18 60
Alberta	21 00	43 90	64 90
New Brunswick	7 00	4 75	11 75
Nova Scotia	7 00	5 55	12 55
Prince Edward Island	4 00	9 70	13 70

Following a resolution passed at the last annual meeting a committee was appointed by your Directors to co-operate with the Dominion Department of Agriculture in furthering the interests of the sheep industry. The report of that committee has been received, and the following are some statistics with reference to the purchase and sales of stock held in conjunction with the Dominion Department of Agriculture. The ewes sold were Grades.

PURCHASES.

Ewes	1,202

Rams.

Shropshires	228	Leicesters	45
Southdowns	57	Suffolks	6
Cotswolds	21	Cheviots	48
Dorsets	23	Oxfords	87
Hampshires	17		
Lincolns	12		544

SALES.

—	Shropshires.	South Downs.	Cotswolds.	Dorsets.	Hampshires.	Oxfords.	Lincolns.	Leicesters.	Suffolks.	Cheviots.	Ewes.	Total sales.
Western sales;												
Vernon, B.C.	20	1	3	3	6	2	3	2	2	....	410	3,702 00
Victoria, B.C.	12	8	3	3	2	4	....	....	....	....	220	2,087 50
New Westminster, B.C.	12	5	4	6	5	13	2	3	3	....	349	3,507 50
Eastern sales:												
Yarmouth, N.S.	15	4	2	2	....	4	....	2	....	5	36	403 60
Bridgewater, N.S.	5	8	....	2	....	7	....	3	....	5	20	347 00
Inverness, N.S.	15	3	....	....	....	6	....	....	....	3	....	220 75
North Sydney, N.S.	8	2	....	1	....	4	....	....	....	5	....	194 75
Antigonish, N.S.	12	2	....	....	....	12	....	2	....	6	38	497 75
Truro, N.S.	23	4	1	2	....	9	....	4	....	2	60	820 00
Moncton, N.B.	3	....	....	....	....	4	2	2	....	....	....	127 00
Sussex, N.B.	14	....	....	....	....	....	....	5	....	3	12	465 00
St. Stephen, N.B.	6	2	....	1	1	2	....	2	....	....	25	325 50
Fredericton, N.B.	17	1	3	....	....	5	1	6	....	6	....	445 00
Bathurst, N.B.	12	2	2	1	....	4	2	3	....	3	....	233 00
Summerside, P.E.I.	3	....	....	....	1	2	....	2	....	....	....	110 00
Hunters' River, P.E.I.	6	2	....	....	1	1	1	3	....	1	....	204 25
Mount Stewart, P.E.I.	6	1	....	1	1	2	....	3	1	1	....	192 25
Melville, P.E.I.	5	2	....	....	....	1	....	1	....	1	....	110 75
Dept. of Agriculture, P.E.I	5	4	....	....	....	1	....	....	....	....	....	90 00
New Brunswick Sheep Company	25	2	2	....	....	2	....	3	....	2	....	252 00
11 Rams were disposed of by private sale												60 00

Summary Western Sales.		Summary Eastern Sales.	
Rams sold	127	410	
Ewes sold	979	191	
	1,106	601	
	$9,297 25		$5,008 60

Western Shipments of Pure-Bred Live Stock.

During the past year in accordance with instructions from the different Associations, a shipment was made from Ontario to the West on the first of each month from February to July and on the first of October.

Following is a statement of debit and credit balances in connection with each shipment:

To Balance per Statement last year	$ 99 67	
To Printing Schedule of Rates	7 50	
To Debit Balance February Car	82 03	
By Credit Balance, March Car		$16 35
To Debit Balance, April Car	103 31	
To Debit Balance, May Car	67 45	
To Debit Balance, June Car	109 55	
To Debit Balance, July Car	175 41	
By Credit Balance, October Car		40 66
	$644 92	$57 01
Balance		$587 91

There is about $40.00 still to be collected, which will reduce this amount to that extent. Some provision will require to be made to equitably apportion this amount among the different Associations interested.

	Number in each shipment.							Total Number.
	Feb.	March.	April.	May.	June	July.	Oct.	
Horses:								
Clydesdales	5	10	5	6	3	7	9	43
Shires			1		1		2	4
Standard-breds	1			1				2
Hackneys	1						1	2
Cattle:								
Holstein	1	1	2	2		2	1	9
Shorthorn	7	3	9	1	2		1	23
Ayrshire			1	1	3		3	8
Jersey					2			2
Galloway		1						1
Hereford		2						2
Sheep:								
Shropshires	6					2	1	9
Dorsets	4							4
Leicesters						6	1	7
Oxfords							2	2
Southdowns						2		2
Swine:								
Tamworths				3	1			4
Hampshires				6				6
Berkshires				1			1	2
Yorkshires	5			2		1		8
								140

FINANCIAL STATEMENT

for the year ending December 31st, 1913.

Receipts.

Cash on hand, as per last Report		$2,692 39	
Memberships		448 00	
Registrations		2,127 94	
Dominion Government Grant, *re* sheep sales	$33,000 00		
Sale of Sheep	14,517 30		
Miscellaneous	9 19		
		47,526 49	
Interest		191 55	
Total			$52,986 37

Expenditures.

Directors' Expenses		$232 70	
Grants—			
Ontario Sheep Breeders' Association		454 70	
Quebec Sheep Breeders' Association		375 85	
Manitoba Sheep Breeders' Association		56 15	
Alberta Sheep Breeders' Association		40 45	
Saskatchewan Sheep Breeders' Association		25 65	
Maritime Sheep Breeders' Association		23 90	
British Columbia Sheep Breeders' Association		17 30	
Record Office, Balance owing on 1911		649 78	
Printing and binding Records		684 80	
Printing notices for Annual Meeting		5 77	
Rent of hall for Annual Meeting		5 00	
Sheep Sales—			
Expenses of Committee		4,712 40	
Purchase of Stock		19,813 45	
Shipping Expenses		9,983 04	
Expenses of Sales		924 22	
Telephone and Express		4 80	
Cash on hand		14,976 41	
Total			$52,986 37

Examined and found correct,
this 3rd day of February, 1913.

(Signed) G. de W. Green,
Auditor.

(Signed) D. McCrae,
President.

(Signed) A. P. Westervelt,
Treasurer.

REPORT OF THE SHEEP COMMITTEE.

The following is the report of the Sheep Committee by R. H. Harding:

We, the committee appointed by you at the last annual meeting to take up with the Dominion Minister of Agriculture the question of furthering the sheep industry beg leave to submit the following brief report. We met the Hon. Mr. Burell, and found him in a very receptive mood, and quite ready to do anything in reason to help the industry. He finally granted us $15,000, to be used for that purpose, at the same time requesting your Committee to assist in the work. The work finally arranged, was, first, a campaign by members of the Committee to learn the requirements of the different districts, and as a result, finding large areas.

especially suited to sheep raising and the industry badly neglected, especially in so far as the use of pure-bred sires was concerned, and finally the purchase of practically 1,200 grade ewes, and 550 pure-bred rams, which were sold in the Maritime Provinces and British Columbia. While prices received were not very encouraging, the Committee feels that great good will eventually follow.

We beg to recommend that the Dominion Department of Agriculture be requested to continue the good work, especially with regard to the pure-bred sires, which are so very necessary in stock improvement, and also that a Committee be again appointed to assist in the work if opportunity is offered.

Signed in behalf of the Committee, R. H. HARDING, Chairman.

Moved by JOHN CAMPBELL, seconded by H. N. GIBSON, "That we approve of the action taken by the American Shropshire Association in offering to transfer registered pedigrees of Shropshire Sheep from the Canadian to the American Record, on condition that a similar system of transfer shall be made from the American to the Canadian Record, at a uniform fee of twenty-five cents per transfer. Further, that on receipt of an official notice from the American Shropshire Association of said action, we as an Association shall co-operate as set forth."

Moved in amendment, by J. E. BRETHOUR, seconded by R. H. HARDING, "That the question of recording Shropshires from the American Shropshire Association for a transfer fee of twenty-five cents be referred to the Directors with power to act therein."

The amendment was carried.

Moved by R. H. HARDING, seconded by DR. COUTURE, "That the Record Committee of the National Live Stock Records be and is hereby authorized on behalf of the Dominion Sheep Breeders' Association to enter into the annexed agreement between the said Committee and Rolla L. Crain, this Association hereby satisfying and confirming whatever may be lawfully done under said agreements, and hereby undertaking and agreeing to pay the said Rolla L. Crain or the Company referred to in said agreement such sums of money as shall from time to time become payable thereunder for printing, binding or other work of this Association. That the President and Secretary are hereby empowered and required to affix thereto their respective signatures, whereupon the said agreements shall in all respects be binding as if this Association had been an original party thereto and had executed the same." Carried.

Moved by JAMES DOUGLAS, seconded by JOHN SPRINGSTED, "That the Committee to co-operate with Dominion Department of Agriculture be re-appointed." Carried.

Moved by J. G. HANMER, seconded by JOHN KELLY, "That Hampshires and Suffolks each have a Representative." Carried.

OFFICERS FOR 1913.

President .....J. E. COUSIN, Harriston.
Vice-President .....H. N. GIBSON, Delaware.
Secretary-Treasurer .....A. P. WESTERVELT, Toronto.

DIRECTORS.

Cotswolds ..... JOHN RAWLINGS, Forest.
Leicesters ..... JAS. SNELL, Clinton.
Lincolns ..... L. PARKINSON, Guelph.
Oxfords ..... J. E. DION, St. Sebastien Station, Que.
Shropshire ..... A. DENIS, Norbert Station, Que.
Southdowns ..... COL. MCEWEN, Byron.
Dorsets ..... R. H. HARDING, Thorndale.
Hampshires ..... JAS. BRYSON, Brysonville, Que.
Suffolks ..... V. SYLVESTRE, Clairvaux Bagot, Que.

Ontario Agricultural College..... PROF. G. E. DAY, Guelph.
General Directors ..... JOHN CAMPBELL, Woodville.
A. W. SMITH, Maple Lodge.

VICE-PRESIDENTS REPRESENTING THE DIFFERENT PROVINCES.

British Columbia ..... A. E. DAVEY, Ladner's, B.C.
Alberta ..... BRYCE WRIGHT, Dewinton, Alta.
Saskatchewan ..... J. A. M. PATRICK, Yorkton, Sask.
Quebec ..... H. E. WILLIAMS, Knowlton, Que.
New Brunswick ..... COL. H. MONTGOMERY CAMPBELL, Aphoqui, N.B.
Nova Scotia ..... STANLEY LOGAN, Amherst, N.S.
Prince Edward Island ..... ALBERT BOSWELL, Charlottetown, P.E.I.
Auditor ..... G. DEW. GREEN, Toronto.

REPRESENTATIVES TO FAIR BOARDS.

Canadian National Exhibition: W. A. DRYDEN, Brooklin.

Western Fair (1914): LT.-COL. R. MCEWEN, Byron; R. H. HARDING, Thorndale.

Central Canada Exhibition: J. C. STEWART, Dalmeny; J. PAUL, Russell.

Ontario Provincial Winter Fair: L. PARKINSON, Guelph; J. E. COUSIN, Harriston; A. W. SMITH, Maple Lodge; LT.-COL. R. MCEWEN, Byron.

Eastern Ontario Live Stock and Poultry Show: JAMES BRYSON, Brysonville, Que.; J. F. FERGUSON, Renfrew; W. WALLACE, Kars; J. E. COUSIN, Harriston.

Winnipeg Industrial Exhibition: A. D. GAMLEY, Griswold, Man.; A. J. MACKAY, Macdonald, Man.

Canadian Live Stock Association: JAMES SNELL, Clinton; JOHN GARDHOUSE, Weston.

NOTICE OF MOTION.

DR. COUTURE gave notice that at the next annual meeting he would introduce a motion to have the Directors elected as follows: Five from the Province of Quebec, six from the Province of Ontario, one from the other Provinces, instead of electing Representatives for each breed.

The meeting then adjourned.

Ontario Sheep Breeders' Association

ANNUAL MEETING.

The annual meeting of the Ontario Sheep Breeders' Association was held in the Walker House, Toronto, on Thursday, February 6th at 8 p.m.

President Lt.-Col. R. McEwen occupied the Chair. The minutes of the last annual meeting were read and adopted. The financial statement was presented by the Treasurer and on motion adopted.

FINANCIAL STATEMENT

For the year ending December 31st, 1912.

Receipts.

Cash on hand as per last report	$513 72	
Grant, from Dominion Sheep Breeders' Assn.	454 70	
Interest	23 75	
Total		$992 17.

Expenditures.

Directors' Expenses	$44 10	
Rent of Hall for Annual Meeting	5 00	
Printing Notices	2 73	
Cash on hand	940 34	
Total		$992 17

Examined and found correct,
this 3rd day of February, 1913.

(Signed) G. DEW. Green,
Auditor.

(Signed) Robt. McEwen,
President.

(Signed) A. P. Westervelt,
Treasurer.

PRESIDENT'S ADDRESS.

Robert McEwen, Byron.

At the time of your annual meeting a year ago, the condition of the market for commercial sheep was none too satisfactory, and the feeling in the country was far from being optimistic. The discards of the flocks in the shape of old ewes were not relished by either killers or consumers, even at bottom values, and cold storage plants were filled to their capacity with lamb, the effects of which were that the profits for the winter feeding were not what was anticipated. The cleaning up process of the American ranges continued throughout the greater part of the year, interfering with the consumption of our own product, and altogether there was nothing in the horizon to encourage our breeders either to expand their operations or to start new flocks.

To-day it is entirely a different story. The ability of the consumer is even better than it was a year ago, and their numbers have increased by hundreds of thousands. Supplies in packers' hands are at their lowest; beef, pork and poultry are on too high a basis here at home to be exported to Britain, and it was stated that lambs were never sold higher in the month of January on the Toronto market than this year. The competition with American sheep so far as the Province is concerned has vanished and the field of our own market is ample to take care of more than we are at the present time producing. It is to be observed, too, that some of the objections which have been raised against sheep breeding have disappeared. The fear of the loss by dogs, has through legislation, been provided for, the reduction in the cost of woven wire fencing, and its more general use, the universal recognition of the necessity of greater attempt being paid to the destruction of weeds—these are reasons why sheep breeding is to-day viewed with increased favor. The economy of keeping down the household expenses on the farm in the purchase of meat should always appeal to the farmer breeding a few sheep, and in fact it is not an uncommon thing to hear of the buying of lambs solely for that purpose. We shall, therefore, feel warranted in looking forward to a healthy trade and brighter prospects.

During the past year owing to the outbreak of foot and mouth disease in Britain scarcely any importations from that quarter were admitted, and United States exhibitors in their unpreparedness took away what we had to spare in the way of purebred fitted sheep. In addition, a large consignment of purebred rams of the various breeds were shipped to the Maritime Provinces and British Columbia, and disposed of by public auction, in the expectation that the purchasers seeing the advantages to be obtained by the use of sires of merit and pure breeding, an increased demand would arise, and a higher estimate placed upon their value in those districts where they were sold. There is still an important field in the Provinces of Saskatchewan and Alberta, in which development in sheep breeding can advantageously be undertaken, and where New Zealand and American Merino mutton is extensively marketed for the good and sufficient reason that the home-grown and superior article is not to be had in ample supply.

Through an earnest effort along the educational lines inaugurated a revived interest may surely with confidence be anticipated.

OFFICERS FOR 1913.

President . . . . . J. D. Brien, Ridgetown.
Vice-President . . . . . J. T. Gibson Denfield.
Secretary . . . . . A. P. Westervelt, Toronto

Executive Committee.

James Douglas, Caledonia. H. M. Lee, Highgate.
The President.

Directors.

Cotswolds . . . . . J. D. Brien, Ridgetown.
Lincolns . . . . . J. T. Gibson Denfield.
Leicesters . . . . . James Douglas, Caledonia.
Oxfords . . . . . Henry Arkell, Teeswater.
Shropshires . . . . . J. G. Hanmer, Brantford.
Southdowns . . . . . C. Hodgson Brantford.
Dorsets . . . . . James Robertson, Milton.
Hampshires and Suffolks . . . . . Geo. Telfer, Paris

General Directors.

D. J. Campbell, Woodville. Herbert Lee, Highgate.

Representatives to Fair Boards.

Canadian National Exhibition.... R. H. Harding, Thorndale.
Western Fair, 1914.....James Snell, Clinton; John Kelly, Shakespeare.
Central Canada Exhibition.....W. A. Wallace, Kars.

Moved by R. H. Harding, seconded by Henry Arkell, that Messrs. J. D. Brien, James Douglas and H. N. Gibson be a committee to wait upon the Honourable the Minister of Agriculture for Ontario, and lay the views of this Association before him as outlined in the resolution presented by the Directors. Carried.

Moved by Mr. Douglas, seconded by Mr. Telfer, "That the Directors' recommendation with reference to the Association Cars, advertising and interviewing the Minister of Agriculture, be adopted." Carried.

Moved by Mr. Lloyd-Jones, seconded by Mr. Campbell, "That the Representatives of this Association to the Canadian National Exhibition be instructed to obtain, if possible, five prizes for each class of sheep." Carried.

Moved by Mr. Campbell, seconded by Mr. Lloyd-Jones, "That Lt.-Col. R. McEwen, R. H. Harding and John Campbell be a Committee to wait upon freight agents of the different railways with the object of obtaining a half rate in shipping sheep from one exhibition to another." Carried.

Moved by Mr. J. D. Brien, seconded by Mr. H. N. Gibson, "That the Secretary obtain information with reference to the numbers of sheep for sale by the different members of this Association. This information to be used, if it appeared advisable to do so, in advertising in the Western Papers." Carried.

Moved by R. H. Harding, seconded by Lt.-Col. R. McEwen, and resolved, "That we, the members of the Ontario Sheep Breeders' Association, here assembled, beg leave to express our most profound regret at the loss of one of our most esteemed members and Directors in the person of the late lamented John Jackson, whose genial disposition and wise counsel has, ever since the organization of this Association, been of untold benefit to us while performing from time to time the important work that has fallen to our lot, and we further beg leave to express our deepest sympathy for his family in this their hour of sorrow."

Lt.-Col. R. McEwen was recommended as Judge of all breeds of sheep at the next Eastern Ontario Live Stock and Poultry Show.

Moved by T. H. Shore, seconded by J. D. Brien, "That if the management of the Western Fair do not wish to employ a judge for each breed of sheep Ernest Parkinson be recommended as judge of all long wool breeds." Carried.

Prof. Day gave a short outline of the work being carried on with sheep at the Ontario Agricultural College, outlining some changes which might be made.

After the appointment of expert judges and the nomination of judges for exhibitions the meeting adjourned.

EXPERT JUDGES

and Judges Recommended for Exhibitions for 1913 by the Ontario Sheep Breeders' Association.

Cotswolds: S. J. Lyons, Norval; J. P. Fitch, Oriel; Jas. Underhill, Claremont; Prof. G. E. Day, Guelph; J. V. Snell, Snelgrove; D. H. Marshall, Snelgrove; Geo. Allen, Burford; John Rawlings, Forest; Wm. Thompson, Uxbridge; John Park, Burgessville; Robert Vance, Ida; Angus Thompson, Duart; J. D. Brien, Ridgetown; Sam. Kennedy, Uxbridge; T. Hardy Shore, Glanworth.

Judges nominated for Toronto: JOHN RAWLINGS, Forest; (Reserve) J. V. SNELL, Snelgrove.

Judges nominated for London: JAMES UNDERHILL, Claremont; (Reserve) GEO. ALLEN, Burford.

Judges nominated for Ottawa (Fall Fair): JAMES UNDERHILL, Claremont; (Reserve) T. HARDY SHORE, Glanworth.

Judges nominated for Guelph (Winter Fair): JOHN RAWLINGS, Forest; (Reserve) D. H. MARSHALL, Snelgrove.

LEICESTERS: JAS. FENNELL, Bradford; H. B. JEFFS, Bond Head; A. E. ARCHER, Warwick; GEO. WHITELAW, Guelph; ABRAHAM EASTON, Appleby; E. WOOD, Appleby; WM. PARKINSON, Eramosa; JOHN ORR, Galt; WM. MCINTOSH, Burgoyne; R. EASTWOOD, Mimico; JOHN KELLY, Shakespeare; J. K. CAMPBELL, Palmerston; G. B. ARMSTRONG, Teeswater; C. E. WOOD, Freeman; J. M. GARDHOUSE, Weston; ANDREW WHITELAW, Guelph; WM. WHITELAW, Guelph; A. W. SMITH, Maple Lodge; H. G. ARNOLD, Maidstone; PROF. G. E. DAY, Guelph; JAS. DOUGLAS, Caledonia; A. HASTINGS, Crosshill; JAS. SNELL, Clinton; JOHN WRIGHT, Chesley; W. S. DUNNET, Lythmore; JAMES ROY, Bornholm.

Judges nominated for Toronto: G. B. ARMSTRONG, Teeswater; (Reserve) A. EASTON, Appleby.

Judges nominated for London: WM. DOUGLAS, Tuscarora.

Judges nominated for Chicago: A. J. MACKAY, Macdonald, Man.; (Reserve) A. W. SMITH, Maple Lodge.

Judges nominated for Guelph (Winter Fair): JAMES DOUGLAS, Caledonia.

Judges nominated for Ottawa (Fall Fair): A. W. SMITH, Maple Lodge.

LINCOLNS: JOHN GARDHOUSE, Highfield; LEONARD PARKINSON, R. R. No. 1, Guelph; ERNEST ROBSON, Ilderton; J. H. PATRICK, Ilderton; E. PARKINSON, Eramosa; HERBERT LEE, Highgate; PROF. G. E. DAY, Guelph; D. CAMPBELL, Strathburn; JOHN T. GIBSON, Denfield; GRAHAM WALKER, Chazy, N.Y.; WM. OLIVER, Avonbank; JOHN MITCHELL, Glencoe.

Judges nominated for Toronto: ERNEST ROBSON, Ilderton; (Reserve) JOHN GARDHOUSE, Highfield.

Judges nominated for London: ERNEST PARKINSON, Guelph; (Reserve) JOHN GARDHOUSE, Highfield.

Judges nominated for Ottawa (Fall Fair): JOHN T. GIBSON, Denfield.

Judges nominated for Guelph (Winter Fair): HARRY GIBSON, Denfield.

OXFORDS: PROF. G. E. DAY, Guelph; J. G. ELLENTON, Hornby; M. T. WEIR, Malverin; JAS. TOLTON, Walkerton; R. J. HINE, St. Mary's; HENRY ARKELL, Arkell; J. H. JULL, Burford; W. J. ARKELL, Teeswater; JOHN E. COUSIN, Harriston; ARCH. MCKENZIE, Corwhin; R. E. BIRDSALL, Birdsall; J. C. COOPER, Picton; WM. NEWMAN, Cherry Valley; WM. ARKELL, Teeswater; L. PARKINSON, Guelph; W. LEE, Simcoe; PROF. M. CUMMING, Truro, N.S.; WALTER ELLIOTT, Kelso; J. E. CERSWELL, Bond Head; PROF. W. R. WADE, Guelph; JAS. THOMPSON, JR., Mildmay; A. STEVENSON, Atwood; J. DONALDSON, Teeswater; J. S. MCEWEN, Wroxeter; W. BARNETT, Living Springs; W. J. POMEROY, Belmore; E. BARBOUR, Erin.

Judges nominated for Toronto: J. E. COUSIN, Harriston; (Reserve) PROF. G. E. DAY, Guelph.

Judges nominated for London: W. H. BEATTIE, Pond Mills; (Reserve) A. STEVENSON, Atwood.

Judges nominated for Guelph (Winter Fair): J. E. COUSIN, Harriston; (Reserve) W. H. BEATTIE, Pond Mills.

HAMPSHIRES AND SUFFOLKS: HENRY ARKELL, Arkell; W. H. BEATTIE, Pond Mills; JAMES BOWMAN, Guelph; JOHN KELLY, Shakespeare; GEO. L. TELFER, Paris; PROF. G. E. DAY, Guelph; H. N. GIBSON, Delaware; W. H. ARKELL, Guelph; W. R. BOWMAN, Mount Forest; JOHN CAMPBELL, Woodville; R. J. STONE, Stonington, Ill.; FRANK KLEINTEINTZ, Madison, Wis.; F. C. BIGGS, West Flamboro.

Judges nominated for Toronto: H. N. GIBSON, Delaware; (Reserve) GEO. TELFER, Paris.

Judges nominated for London: GEO. TELFER, Paris; (Reserve) W. H. BEATTIE, Pond Mills.

SOUTHDOWNS: W. H. BEATTIE, Pond Mills; W. H. GIBSON, London; H. N. GIBSON, Delaware; ROBERT MILLER, Stouffville; GEO. TELFER, Paris; J. G. HANMER, Brantford; J. C. DUNCAN, Lewiston, N.Y.; ROBERT MCEWEN, Byron; H. L. COMPTON, Monroe, Ohio; C. F. MCEWEN, Byron; J. A. TELFER, Moncton, N.B.; GEO. ALLEN, Paris; SIMON LEMON, Kettleby; W. A. MCKERROW, Pewaukee, Wis.; W. SIMENTON, Stoney Creek; J. W. SPRINGSTEAD, Abingdon.

Judges nominated for Toronto: FRANK KLEINHEINTZ, Madison, Wis.; (Reserve) W. SIMENTON, Stoney Creek.

Judges nominated for London: GEO. TELFER, Paris; (Reserve) H. N. GIBSON, Delaware.

Judges nominated for Ottawa (Fall Fair): GEO. TELFER, Paris.

Judges nominated for Chicago: H. N. GIBSON, Delaware.

DORSETS: JOHN KELLY, Shakespeare; J. M. GARDHOUSE, Weston; JOHN CAMPBELL, Woodville; J. G. HANMER, Brantford; H. N. GIBSON, Delaware; G. MCKERROW, Sussex, Wis.; R. H. HARDING, Thorndale; G. L. TELFER Paris; JAS. ROBERTSON, Milton; W. H. BEATTIE, Pond Mills.

Judges nominated for Toronto: J. C. DUNCAN, Lewiston, N.Y.

Judges nominated for London: J. H. HANMER, Burford; (Reserve) G. L. TELFER, Paris.

SHROPSHIRES: W. H. BEATTIE, Pond Mills; R. MILLER, Stouffville; J. G. HANMER, Burford; D. J. CAMPBELL, Woodville; H. N. GIBSON, Delaware; GEO. HINDMARSH, Ailsa Craig; G. W. GURNEY, Paris; J. MILLER, Brougham; J. C. DUNCAN, Lewiston, N.Y.; PROF. G. E. DAY, Guelph; A. SHIELDS, Caistorville; GEO. CRAWFORD, Minesing; J. LLOYD-JONES, Burford; W. A. DRYDEN, Brooklin; JOHN R. KELSEY, Woodville; JOHN B. COWIESON, Queensville; THOS. M. BLACKBURN, Kettleby; THOS. HALL, Bradford; C. HODGSON, Brantford; W. A. MCKERROW, Pewaukee, Wis.; F. KLEINHEINTZ, Madison, Wis.; G. H. DAVISON, Millbrook, N.Y.; D. J. HANMER, Burford; J. CAMPBELL, Woodville.

Judges nominated for Toronto: FRANK KLEINHEINTZ, Madison, Wis.; (Reserve) J. C. DUNCAN, Lewiston, N.Y.

Judges nominated for London: H. G. HANMER, Burford; (Reserve) GEO. HINDMARSH, Ailsa Craig.

Judges nominated for Ottawa (Fall Fair): THOS. HALL, Bradford; (Reserve) W. A. DRYDEN, Brooklin.

Judges nominated for Guelph (Winter Fair): H. N. GIBSON, Delaware; (Reserve) W. H. Beattie, Pond Mills.

Dominion Swine Breeders' Association

ANNUAL MEETING.

The annual meeting of the Dominion Swine Breeders' Association was held in the Temple Building, on Tuesday, February 4th, 1913, at 2 p.m.

The President, GEORGE DOUGLAS, occupied the chair.

Moved by J. D. BRIEN, seconded by K. FEATHERSTON, "That as the minutes of the last annual meeting have been published in the Report they be taken as read." Carried.

REPORT OF THE DIRECTORS.

The Secretary read the following report:

Your Directors have to report a very satisfactory year so far as the number of Registrations are concerned. The number of Registrations are slightly less than in 1910 or 1911, but are nevertheless much in excess of any other year. About 75 per cent. more pedigrees were recorded than in 1909.

The number of Registrations for different Breeds of Swine during several years past are as follows:

——	Vol. 20.	Vol. 21.	Vol. 22.	Vol. 23.
Yorkshires	1,775	3,255	3,104	2,712
Berkshires	1,214	3,003	1,884	2,257
Chester Whites	607	914	897	950
Tamworths	355	446	683	449
Poland Chinas	61	152	187	288
Duroc Jerseys	44	90	119	273
Essex	5	11	9	.....
Hampshires	.....	176	222	287

Following is a Statement of Registration by Provinces:

Province.	Registrations.	Transfers.	Duplicate and new certificates.	Membership received.
Ontario	2,374	271	14	294
Manitoba	759	66	11	136
Saskatchewan	692	78	.....	156
Alberta	1,345	150	8	198
British Columbia	166	13	1	36
Quebec	1,192	163	13	256
New Brunswick	127	1	1	24
Nova Scotia	59	1	1	4
Prince Edward Island	48	.....	.....	12
United States	30	1	.....	4

The amounts credited in the monthly statements from the Record Office are as follows:

January	$389 85	July	$542 42
February	379 25	August	676 45
March	378 81	September	549 60
April	345 41	October	328 45
May	426 40	November	435 55
June	432 90	December	473 45

Cash received at the National Record Office and deposited in the Imperial Bank to the credit of the Dominion Swine Breeder' Association, January 1st to December 31st., 1912.

For Registrations and Memberships	$5,359 54
Interest	95 15
Total	$5,454 69

RECEIPTS AND EXPENDITURES FOR CONDUCTING SWINE RECORDS, 1912.

Receipts.

Received from Association to pay Salaries, 1912	$1,200 00
From Record Committee Fund	1,365 97
Balance owing to Record Committee By Association	259 18
	$2,825 15

Expenditures.

Salaries to December 31st, 1912	$2,731 94
Refunds to December 31st, 1912	76 61
Audit to December 31st, 1912	16 60
	$2,825 15

(Signed) JNO. W. BRANT, *Accountant.*

(Signed) GEORGE L. BLATCH, F.C.A. *Auditor.*

GRANTS TO PROVINCIAL ASSOCIATIONS.

During the past year the following amounts have been paid to the Associations in the different Provinces. This includes the amounts owing per last report, and, with the exception of Ontario, the membership received from each Province during the first nine months of 1912:

Ontario	$1,084 05	Saskatchewan	$211 25
Quebec	614 00	British Columbia	71 70
Manitoba	325 15	Maritime Provinces	116 85
Alberta	236 60		$2,659 60

It is suggested that $1,500 should be divided among the different Provinces as the profits from registrations for 1912. The memberships still to be refunded amount to, $536, making the total to be divided among the Provincial Associations at the present time $2,036.

Province.	Number of Members paid in 1912.	Number of Registrations.	Amount of Memberships.	Amount of 1912 Memberships Refunded.	Amount of 1912 Memberships to be Refunded.	Profits from Registrations.	Total Amount to be Refunded.
			$ c.	$ c.	$ c.	$ c.	$ c.
Ontario	169	2,374	338 00	.....	338 00	526 65	864 65
Manitoba	61	759	122 00	110 00	12 00	168 35	180 35
Saskatchewan	78	692	156 00	132 00	24 00	553 50	177 50
Alberta	197	1,345	194 00	102 00	92 00	298 35	390 35
British Columbia	18	166	36 00	28 00	8 00	36 85	44 85
Quebec	147	1,192	294 00	234 00	60 00	264 40	324 40
New Brunswick	.....	127	42 00	40 00	2 00	51 90	53 90
Nova Scotia	.....	59					
Prince Edward Island	.....	48					

In addition to these amounts there is a surplus owing to Ontario unexpended in 1912 of $252.04, making the total amount available for Ontario of $1,116.69. It is recommended that out of this amount the following should be paid:

1. The Ontario Large Yorkshire Swine Breeders' Society, the profits from Yorkshire Registrations amounting to $325.87.

2. The Ontario Berkshire Breeders' Society, the profits from Berkshire Registrations amounting to $271.20.

3. From the balance of the profits from Ontario, amounting to $267.58, and the Ontario surplus $252.04, making a total of $519.62, there should be paid in grants to Fair Associations as follows, on condition that the prizes for swine given by these Exhibitions in 1913 should be as large as in 1912.

Provincial Winter Fair	$50.00
Canadian National Exhibition	75.00
Eastern Ontario Live Stock and Poultry Show	50.00
Central Canada Exhibition	50.00
Western Fair, London	50.00

This money will be given with the understanding that the prizes for Yorkshire and Berkshire classes at these shows should not be increased out of these grants. This will still leave the Ontario surplus $244.62.

Western Shipments of Pure-Bred Live Stock.

During the past year in accordance with instructions from the different Associations, a shipment was made from Ontario to the West on the first of each month from February to July and on the first of October.

Following is a statement of debt and credit balances in connection with each shipment.

To balance per statement last year	$99 67	
To Printing Schedule of rates	7 50	
To debit balance of February car	82 03	
By credit balance of March car		$16 35
To debit balance of April car	103 31	
To debit balance of May car	67 45	
To debit balance of June car	109 55	
To debit balance of July car	175 41	
By credit balance of October car		40 66
	$644 92	$57 01
Balance		$587 91

There is about $40 still to be collected, which will reduce this amount to that extent. Some provision will require to be made to equitably apportion this amount among different Associations interested.

	Number in Each Shipment.							Total Number.
	Feb.	March.	April.	May.	June.	July.	Oct.	
Horses:								
Clydesdales	5	10	5	6	3	7	9	43
Shires	.....	.....	1	.....	1	.....	2	4
Standard-breds	1	.....	.....	1	.....	.....	.....	2
Hackneys	1	.....	.....	.....	.....	.....	1	2
Cattle:								
Holsteins	1	.....	2	2	.....	2	1	9
Shorthorns	7	3	9	1	2	.....	1	23
Ayrshires	.....	.....	1	1	3	.....	3	8
Jerseys	.....	.....	.....	.....	2	.....	.....	2
Galloways	.....	1	.....	.....	.....	.....	.....	1
Herefords	.....	2	.....	.....	.....	.....	.....	2
Sheep:								
Shropshires	6	.....	.....	.....	.....	2	1	9
Dorsets	4	.....	.....	.....	.....	.....	.....	4
Leicesters	.....	.....	.....	.....	.....	6	1	7
Oxfords	.....	.....	.....	.....	.....	.....	2	2
Southdowns	.....	.....	.....	.....	.....	2	.....	2
Swine:								
Tamworths	.....	.....	.....	3	1	.....	.....	4
Hampshires	.....	.....	.....	6	.....	.....	.....	6
Berkshires	.....	.....	.....	1	.....	.....	1	2
Yorkshires	5	.....	.....	2	.....	1	.....	8
								140

FINANCIAL STATEMENT

For the year ending December 31st, 1912.

Receipts.

Cash on hand as per last Report	$4,543 69	
Memberships	1,200 00	
Registrations	4,239 54	
Interest	95 15	
		$10,078 38

Expenditures.

Directors' Expenses	$169 70	
Grants, Ontario—		
Canadian National Exhibition	75 00	
Ontario Provincial Winter Fair	50 00	
Central Canadian Exhibition	50 00	
Western Fair	50 00	
Eastern Ontario Live Stock and Poultry Show	50 00	
Ontario Berkshire Breeders' Society	305 55	
Ontario Large Yorkshire Breeders' Society	503 50	
Edmonton Exhibition Association	50 00	
Quebec Swine Breeders' Association	614 00	
Manitoba Live Stock Associations	325 15	

Alberta Live Stock Associations	$236 60	
Saskatchewan Live Stock Associations	211 25	
Maritime Live Stock Associations	116 85	
British Columbia Live Stock Associations	71 70	
Record Office, for Salaries, 1912	1,200 00	
Record Office, Balance due on Expenses, 1911	113 47	
Printing Records	1,022 30	
Printing Notices for Annual Meeting	6 02	
Rent of Hall for Annual Meeting	5 00	
Purchase of Records	27 39	
Cash on hand	4,824 90	
		$10,078 38

Examined and found correct,
this 3rd day of February, 1913.

(Signed) G. DEW. GREEN,
Auditor.

(Signed) GEORGE DOUGLAS,
President.

(Signed) A. P. WESTERVELT,
Secretary.

Moved by MR. BRETHOUR, seconded by MR. COX, "That the Report of the Directors be adopted." Carried.

The Secretary reported that the Record Committee, having been put to considerable trouble with the printing of the Swine Record during the past year, were desirous of entering into an agreement for having this work done in conjunction with the printing of Records with the different Breeders' Associations for a period of ten years. The proposed agreement was read and discussed by a number of the members present.

Moved by J. E. BRETHOUR, seconded by J. D. BRIEN, "That the Record Committee of the National Live Stock Records be and is hereby authorized on behalf of the Dominion Swine Breeders' Association to enter into the annexed agreement between the said Committee and Rolla L. Crain, this Association hereby satisfying and confirming whatever may be lawfully done under said agreement and hereby undertaking and agreeing to pay to the said Rolla L. Crain or the Company referred to in the said agreement such sums of money as shall from time to time become payable thereunder for printing, binding or other work of this Association.

That the President and Secretary are hereby empowered and required to affix thereto their respective signatures, whereupon the said agreement shall in all respects be binding as if this Association had been an original party thereto and had executed the same. Carried.

Moved by MR. HARDING, seconded by MR. COX, "That the Secretary of the Association address a letter of sympathy to Mr. Artemus O'Neil and family, of Birr, Ontario, in connection with the death of their son Jas. O'Neil, a former Director of the Association."

Moved by MR. GOULD, seconded by MR. DECOURCY, "That in the election of officers there be a Director to represent Duroc Jerseys and one to represent Poland Chinas, and that no Directors should be appointed to represent Essex. Carried.

OFFICERS FOR 1913.

President—S. DOLSON, Norval Station.
Vice-President—JOHN FLATT, Millgrove.
Secretary—A. P. WESTERVELT, Parliament Buildings, Toronto.
Executive—President, Vice-President, Secretary: P. J. MCEWEN, and GEO. DOUGLAS, Mitchell, Ont.

DIRECTORS.

Berkshires ..... J. D. BRIEN, Ridgetown.
Yorkshires ..... K. FEATHERTON, Streetsville.
Tamworth ..... GEO. DOUGLAS, Mitchell.
Chester Whites ..... D. DECOURCY, Bornholm.
Duroc Jerseys ..... MAC. CAMPBELL, Northwood.
Poland Chinas ..... GEO. GOULD, Edgars Mills.
Hampshires ..... ALEX. HASTINGS, Cross Hill.
Ontario Agricultural College ..... PROF. G. E. DAY, Guelph.
General Director ..... T. A. COX, Brantford.
Auditor ..... G. DE W. GREEN.

REPRESENTATIVES TO FAIR BOARDS.

Canadian National Exhibition..... JOHN FLATT, Millgrove;
S. DOLSON, Norval Station.
Western Fair ..... GEO. DOUGLAS. Mitchell;
D. DECOURCY, Bornholm.
Central Canada Exhibition ..... A. DYNES, Ottawa;
R. J. GARBUTT, Belleville.
Ontario Provincial Winter Fair.... PROF. G. E. DAY, Guelph;
JOHN FLATT, Millgrove;
J. D. BRIEN, Ridgetown;
Eastern Ontario Live Stock and Poultry Show ..... R. H. HARDING, Thorndale.
SAM. DOLSON, Norval Station;
R. A. HERON, Billings Bridge;
J. C. STEWART, Dalmeny;
R. O. MORROW, Hilton.

After the revision of the list of expert judges and the making of recommendations for judges at the various exhibitions the meeting adjourned.

EXPERT JUDGES

and Judges Recommended for Exhibitions for 1913 by the Dominion Swine Breeders' Association.

BERKSHIRES: JOHN KELLY, Shakespeare; J. J. WILSON, Milton; H. MASON, Scarboro; ADAM THOMPSON, Shakespeare; JAMES HAMILTON, Shakespeare; J. C. SMITH, Ottawa; X. PLAUNT, Northcote; SAMUEL DOLSON, Norval Station; HUGH G. CLARK, Georgetown; P. W. BOYNTON, Dollar; ALEX. SMITH, Maple Lodge; PETER MCEWEN, Kertch; JOHN BOYES, JR., Churchill; J. C. SNELL, London; THOS. TEASDALE, London; ROBERT VANCE, Ida; T. A. COX, Brantford; E. E. MARTIN, Canning; H. B. JEFFS, Bond Head; WM. LINTON, Aurora; J. D. BRIEN, Ridgetown; W. A. SHIELD, Milton; D. J. GIBSON, Bowmanville; S. J. LYONS, Norval; J. L. CLARK, Norval; AIKEN DOLSON, Alloa; FRANK TEASDALE, Concord; J. WEIR, Northfield Centre; J. LAWRENCE, Oxford Centre; WM. COATES, Malton; H. KOELIN, Glen Allan; S. Lemon, Kettleby; W. W. BROWNRIDGE, Ashgrove; H. VANDERLIP, Cainsville; BEN PETCH, Georgeotwn; J. S. COWAN, Donegal; G. B. WRIGHT, Wheatley.

Judges nominated for Toronto: J. D. BRIEN, Ridgetown; (Reserve) H. N. VANDERLIP, Cainsville.

Judges nominated for London: P. J. MCEWEN, Kertch; (Reserve) E. E. MARTIN, Canning.

Judges nominated for Ottawa (Fall Fair): H. N. VANDERLIP, Cainsville.

Judges nominated for Guelph (Winter Fair): W. W. BROWNRIDGE, Ashgrove; (Reserve) H. B. JEFFS, Bond Head.

YORKSHIRES AND TAMWORTHS: DAVID BARR, JR., Renfrew; E. A. KIPP, Chilliwack, B.C.; GEO. G. BETSNER, Copetown; J. E. BRETHOUR, Burford; WM. JONES, Zenda; R. J.

GARBUTT, Belleville; R. H. HARDING, Thorndale; J. H. SIMONTON, Chatham; A. ELLIOTT, Galt; L. F. MASTER, Haysville; A. C. HALLMAN, Breslau; H. DEDELS, Kossuth; G. B. HOOD, Guelph; JOS. FEATHERSTON, Streetsville; H. E. SHARP, Ida; GEO. GIEB, Grand Valley; JOS. STEPHEN, Trout River, Que.; ROBERT NICHOL, Brussels; WM. HOWE, North Bruce; PROF. G. E. DAY, Guelph; H. J. DAVIS, Woodstock; D. C. FLATT, Millgrove; W. R. MCDONALD, Ridgetown; W. ELLIOTT, Galt; R. G. MARTIN, Marysville; J. E. COUSINS, Harriston; J. W. CALLBECK, Augustine Cove, P.E.I.; J. C. SMITH, Ottawa; D. DRUMMOND, Ottawa; A. CAREY, Millgrove; JAMES YULE, East Selkirk, Man.; R. F. DUCK, Port Credit; THOS. HURLEY, Belleville; J. H. GRISDALE, Ottawa; A. A. COLWILL, Newcastle; M. CUMMINGS, Truro, N.S.; R. O. MORROW, Hilton; GEO. DOUGLAS, Mitchell; W. A. TRANN, Cedar Grove; P. O. COLLINS, Bowesville; J. R. FLATT, Millgrove; J. DUCK, Port Credit; KEN. FEATHERSTON, Streetsville; J. W. BLACK, Winnipeg, Man.; HERBERT GERMAN, St. George; M. WILSON, Fergus; C. CURRIE, Morriston; GUS. A. LANGELIER, Cap Rouge, Que.; RICHARD BIRCH, Anderson; H. KOELIN, Glen Allan; L. A. SNIDER, Floradale; J. I. FLATT, Millgrove; C. KETTLE, Wilsonville; C. M. MCRAE, Ottawa; R. HONEY, Brickley; J. C. STEWART, Dalmeny; THOS. REDMAN, Erindale; PROF. G. E. DAY, Guelph; JAS. DOUGLAS, Mitchell.

Judges nominated for Toronto: Yorkshires—J. E. BRETHOUR, Burford; (Reserve) PROF. G. E. DAY, Guelph. *Tamworths*—W. ELLIOTT, Galt; (Reserve) A. C. HALLMAN, Breslau.

Judges nominated for London: Yorkshires and Tamworths—R. H. HARDING, Thorndale.

Judges nominated for Ottawa (Fall Fair): Yorkshires and Tamworths—JOHN FLATT, Millgrove; (Reserve) A. A. COLLWILL, Newcastle.

Judges nominated for Ottawa (Winter Fair): Yorkshires and Tamworths—D. C. FLATT, Hamilton; (Reserve) A. A. COLLWILL, Newcastle. *Dressed Carcasses*—PROF. G. E. DAY, Guelph.

Judges nominated for Guelph (Winter Fair): Yorkshires and Tamworths—Breeding Class and Bacon Hogs—PROF. G. E. DAY, Guelph; (Reserve) D. C. FLATT, Hamilton. *Dressed Carcasses*—WM. JONES, Zenda.

HAMPSHIRES:

Judges nominated for Toronto: J. C. NICHOL, Hubrey; (Reserve) GEO. DOUGLAS, Mitchell.

Judges nominated for London: MAC. CAMPBELL, Northwood; (Reserve) J. D. BRIEN, Ridgetown.

Judges nominated for Ottawa (Fall Fair): ROBERT GARBUTT, Belleville.

Judges nominated for Guelph (Winter Fair): SAM. DOLSON, Norval Station.

CHESTER WHITES, POLAND CHINAS, AND DUROC JERSEYS: E. D. GEORGE, Putnam; R. E. BIRDSALL, Birdsall; ALBERT BARACHY, Bloomington; WM. JONES, Zenda; J. C. SNELL, London; D. DECOURCY, Bornholm; R. H. HARDING, Thorndale; G. B. HOOD, Guelph; GIDEON SNYDER, Jarvis; K. FEATHERSTON, Streetsville; G. BENNETT, Charing Cross; J. C. NICHOL, Hubrey; PROF. G. E. DAY, Guelph; W. E. WRIGHT, Glanworth; GEO. DOUGLAS, Mitchell; J. C. SMITH, Hintonburg; R. J. GARBUTT, Belleville; JOHN FLATT, Millgrove; GEO. G. GOULD, Edgars Mills; J. D. BRIEN, Ridgetown.

Judges Nominated for Chester Whites:

Toronto: E. D. GEORGE, Putnam; (Reserve) PROF. G. E. DAY, Guelph.

London: JOHN FLATT, Millgrove; (Reserve) G. B. HOOD, Guelph.

Ottawa (Fall Fair): R. H. HARDING, Thorndale; (Reserve) A. DYNES, Ottawa.

Guelph (Winter Fair): JOHN FLATT, Millgrove; (Reserve) GEO. BENNETT, Charing Cross.

Judges Nominated for "Any Other Distinct Breed":

Toronto: D. DECOURCY, Bornholm; (Reserve) A. HASTINGS, Crosshill.

London: J. D. BRIEN, Ridgetown; (Reserve) W. WRIGHT, Glanworth.

Ontario Large Yorkshire Swine Breeders' Society

ANNUAL MEETING.

The annual meeting of the Ontario Large Yorkshire Swine Breeders' Society was held in the Walker House, Toronto, at 11 a.m. on February 4th, 1913.

The minutes of the last meeting were read and adopted on motion.

Moved by W. JONES, seconded by R. J. GARBUTT, "That Mr. Green's audit of the financial statement be accepted as satisfactory." Carried.

Moved by R. J. GARBUTT, seconded by MAJOR WOOD, "That the Financial Statement, as read by the Treasurer, be accepted." Carried.

Moved by JOHN FLATT, seconded by K. FEATHERSTON, "That a grant of $125 be made to the Canadian National Exhibition, and that the Secretary be instructed to notify the C. N. E. Board that better accommodation for judging will be expected." Carried.

Moved by R. J. GARBUTT, seconded by JOHN FLATT, "That the Provincial Winter Fair at Guelph be granted $125." Carried.

Some dissatisfaction was expressed with reference to accommodation for swine at this fair.

Moved by J. C. STEWART, seconded by C. C. KETTLE, "That $50 be granted the Central Canada Ottawa Exhibition." Carried.

Moved by K. FEATHERSTON, seconded by H. J. DAVIS, "That $50 be given Western Fair, London." Carried.

Moved by J. C. STEWART, seconded by W. JONES, "That the Eastern Ontario Live Stock and Poultry Show receive a grant of $75." Carried.

Moved by JOHN FLATT, seconded by K. FEATHERSTON, "That $30 be donated to the Dominion Exhibition to be offered as $15 for best male, and $15 for best female. Yorkshire." Carried.

OFFICERS FOR 1913.

President ..... WM. JONES, Zenda.
Vice-President ..... G. B. HOOD, Guelph.
Secretary ..... A. P. WESTERVELT, Toronto.

EXECUTIVE COMMITTEE.

J. E. BRETHOUR, Burford.
JOHN FLATT, Millgrove.
THE PRESIDENT.

DIRECTORS.

J. C. STEWART, Dalmeny.
JOHN FLATT, Millgrove.
J. E. BRETHOUR, Burford.
K. FEATHERSTON, Streetsville.
R. J. GARBUTT, Belleville.
WM. JONES, Zenda.
G. B. HOOD, Guelph.

FINANCIAL STATEMENT.

For the year ending December 31st, 1912.

Receipts.

Cash on hand as per last Report	$241 59	
Grant, Dominion Swine Breeders' Association, Profits from Registrations	503 50	
Interest	14 30	
		$759 39

Expenditures.

Grants—		
Canadian National Exhibition, 1912	$125 00	
Central Canadian Exhibition, 1912	100 00	
Ontario Provincial Winter Fair, 1912	95 00	
Western Fair, 1912	50 00	
Eastern Ontario Live Stock and Poultry Show, 1912	50 00	
Printing Notices for Annual Meeting	3 23	
Cash on hand	336 16	
		$759 39

Examined and found correct,
this 3rd day of February, 1913.

(Signed) J. E. BRETHOUR,
President.

(Signed) G. DE W. GREEN,
Auditor.

(Signed) A. P. WESTERVELT,
Treasurer.

Ontario Berkshire Breeders' Society

ANNUAL MEETING.

The annual meeting of the Ontario Berkshire Breeders' Society was held in the Walker House, Toronto, at 9 a.m., Tuesday, February 4th, 1913.

The President being absent, the Vice-President, MR. KELLY presided.

Moved by T. A. COX, seconded by E. E. MARTIN, "That the minutes of the last meeting be adopted." Carried.

Moved by E. E. MARTIN, seconded by LT.-COL. MCEWEN, "That the Financial Statement be adopted." Carried.

Moved by E. E. MARTIN, seconded by S. DOLSON, "That MR. GREEN's audit of financial statement be accepted as satisfactory." Carried.

Moved by T. A. COX, seconded by W. A. WALLACE, "That the grant to the Canadian National Exhibition, and Ontario Provincial Winter Fair, be $75.00 each, and to the Western Fair, London, the Eastern Ontario Live Stock and Poultry Show, and the Central Canada, be $40.00 each." Carried.

The meeting then adjourned.

FINANCIAL STATEMENT.

For the year ending December 31st, 1912.

Receipts.

Cash on hand as per last Report	$217 00	
Grant, Dominion Swine Breeders' Association, Profits from Registrations	305 55	
Interest	9 75	
		$532 30

Expenditures.

Grants—		
Ontario Provincial Winter Fair, 1912	$100 00	
Canadian National Exhibition, 1912	100 00	
Central Canadian Exhibition, 1912	50 00	
Western Fair, 1912	50 00	
Eastern Ontario Live Stock and Poultry Show, 1912	50 00	
Advertising	23 52	
Printing Notices of Annual Meeting	2 75	
Cash on hand	156 03	
		$532 30

Examined and found correct,
this 3rd day of February, 1913.

(Signed) THOMAS TEASDALE,
President.

(Signed) G. DE W. GREEN,
Auditor.

(Signed) A. P. WESTERVELT,
Treasurer.

DIRECTORS' MEETING.

A meeting of the Directors of the Ontario Berkshire Breeders' Society was held immediately at the close of the annual meeting. The following officers were elected:

OFFICERS FOR 1913.

President .....JOHN KELLY, Shakespeare.
Vice-President .....P. J. MCEWEN, Kertch.
Secretary .....A. P. WESTERVELT, Toronto.

EXECUTIVE COMMITTEE.

JOHN KELLY, Shakespeare.
P. J. MCEWEN, Kertch.
A. P. WESTERVELT, Toronto.
T. A. COX, Brantford.

Directors.

P. J. MCEWEN, Kertch.
T. A. COX, Brantford.
S. DOLSON, Norval Station.
JOHN KELLY, Shakespeare
D. J. BRIEN, Ridgetown.
W. W. BROWNBRIDGE, Ashgrove.
H. N. VANDERLIP, Cainsville.

The meeting then adjourned.

The Western Ontario Poultry Association

ANNUAL MEETING.

The annual meeting of the Western Ontario Poultry Association was held in the City Hall, Guelph, at 2.00 p.m. on Wednesday, December 11th, 1913.

After the election of officers the meeting adjourned.

OFFICERS FOR 1913.

Honorary Presidents .....Hon. Martin Burrell; Hon. J. S. Duff; Hon. Nelson Monteith; R. Oke, London; H. C. Scholfield, M.P.P., Toronto.
President .....L. G. Jarvis, Grimsby, Ont.
1st Vice-President .....W. J. Teale, Guelph, Ont.
2nd Vice-President .....Wm. Barber, Toronto.

Directors.

Jas. Russell, Toronto.
A. W. Tyson, Guelph.
G. G. Henderson, Hamilton.
T. H. Scott, St. Thomas.
J. J. George, Port Elgin.
T. J. Kiley, London.
J. Bogue, Strathroy.
W. J. Bell, Angus.

Representative to Canadian National Exhibition: Wm. McNeil, London.

Representatives to Ontario Provincial Winter Fair: Wm. McNeil, London; L. H. Baldwin, Toronto; L. G. Jarvis, Grimsby; A. W. Tyson, Guelph.

Representatives to Western Fair: J. H. Saunders, London; R. McCurdy, London.

FINANCIAL STATEMENT

For the year ending October 31st, 1912.

Receipts.

Members' Fees	$411 00

Expenditures.

Balance due Treasurer, as per last Report	$11 80
Memberships transferred to Winter Fair	399 20
Directors' Expenses	17 35
Total	$428 35
Balance due Treasurer	$17 35

Examined and found correct,
this 11th day of December, 1912.

(Signed) Richard Oke, *President.*
(Signed) A. P. Westervelt, *Treasurer.*

(Signed) J. M. Duff, Auditor.

Eastern Ontario Poultry Association

ANNUAL MEETING.

The annual meeting of the Eastern Ontario Poultry Association was held at Ottawa on Thursday, January 16th, President George Robertson in the chair.

The minutes were taken as read and adopted.

A letter from the Hiawatha Pigeon Lofts, regarding prizes and judges was referred to the Board of Directors.

The following changes were suggested in the Prize List:

1. That a class be added for Red Swallows.
2. That there should be two classes for Short Faced Tumblers, "any solid color," and "any other color."
3. That a class be added for Campines.
4. That there be a class for Pearl, and a class for White Guinea Fowl.
5. That a class be added for Moon Caps.
6. That a class be added for White Poland Bantams.
7. That a class be added for Flying Homers (Standard).

OFFICERS FOR 1913.

Honorary Presidents ..... Hon. Martin Burrell and Hon. J. S. Duff.
President ..... George Robertson, Ottawa.
1st Vice-President ..... George Higman, Sr., Ottawa.
2nd Vice-President ..... Jno. A. Belford, Ottawa.

Directors.

Jas. Baptie.
W. F. Garland.
Dr. Lambertus.
Geo. Higman, Jr.
E. C. McDougall.
J. H. Warrington.
Jas. Snetsinger.

Representatives to the Eastern Ontario Live Stock and Poultry Show: Geo. Robertson, Geo. Higman, Sr., John Belford and W. F. Garland.

Representative to Central Canada Exhibition: John Belford.

Representative to Canadian National Exhibition: Wm. Barber.

The meeting then adjourned.

Ontario Provincial Winter Fair

ANNUAL MEETING.

The Board of Directors met in the Secretary's office, Parliament Buildings, Toronto, on Wednesday, June 4th at 2 p.m. The following were present: Messrs. Flatt, Day, Ballantyne, Tyson, Parkinson, A. W. Smith, John Gardhouse, McNeil, Jarvis and Boag.

The minutes of the last annual meeting were read and adopted. The Secretary read the following report of the Executive including the financial statement:

REPORT OF THE EXECUTIVE, ONTARIO PROVINCIAL WINTER FAIR, 1912.

The exhibition for 1912 showed the need for greatly increased accommodation in connection with the Winter Fair. A number of horses had to be stabled outside; the dairy stabling again was not sufficient to accommodate the entries in that depariment, and after a consultation at Norwich, with the dairy exhibitors, it was decided to erect an annex for the dairy cattle, taking the space off the main building. On account of ventilation and light this was not satisfactory, although it was the best that could be done under the circumstances. Accommodation around the large judging arena also was nothing like sufficient to accommodate the large number of spectators who wished to have a reasonable view of the judging.

Your Executive felt the very great need of something substantial being done to provide for accommodation for future exhibitions, and in co-operation with the city of Guelph, a plan was suggested to erect a large arena on the south side of the railway track, which would provide accommodation for the judging, as well as stabling accommodation for all the horses exhibited. A joint deputation from the city of Guelph and Winter Fair Board laid the matter before the Minister of Agriculture, and while a sympathetic hearing was given, no appropriation was made for giving this accommodation in the appropriations made at the last Session of the Legislature. As the matter stands, therefore, at the present time, the accommodation for the coming Exhibition can be but little improved. There are some changes, however, for which provision will require to be made, this is especially the case in the accommodation for swine; new pens and hurdles should be provided throughout.

At the end of the fiscal year (31st January) there was a debit balance of $1,115.94. At that time, however, there was a considerable amount of special prizes which had not been paid in. These have been received and amount to $1,643.75. Accounts have also been paid since that time, amounting to $519, which leaves a credit balance at the present time of $8.81. While there was a cash balance on hand at the beginning of the year, there was over $3.500 paid to the G. T. R. on account of building a subway connecting the horse stable with the Main Building. This amount was about $500 more than the balance on hand at the beginning of the year, and this extra amount was paid out of the current

expenses for 1912. In addition to this the prizes for horses were increased by adding a class for Percherons, amounting to about $300.00, and $200.00 for poultry prizes was paid out of the general funds, which had previously been received from poultry memberships.

Attendance.

	1911	1912
Monday	.....	3,206
Tuesday	5,547	6,391
Wednesday	12,854	12,235
Thursday	11,807	9,587
Friday	3,046	3,590
	33,254	35,009

Entries and Prizes.

The number of entries in the different classes with the prizes paid for 1911 and 1912 are as follows:

	1911.		1912.	
	No. of Entries.	Prizes paid.	No. of Entries.	Prizes paid.
		$ c.		$ c.
Horses	271	2,905 00	285	3,220 00
Beef Cattle	154	1,545 00	135	1,591 00
Dairy Cattle	64	940 00	69	1,122 00
Sheep	478	1,538 00	415	1,527 00
Swine	292	1,356 00	187	1,224 00
Seeds	139 (Open)	237 50	183	247 00
"	68 (Spec.)	230 00	114	443 00
Judging	193	275 00	242	275 00
Fowls	2,856	1,478 75	2,709	1,383 00
Bantams	708	425 00	512	354 50
Turkeys	93	103 25	92	95 50
Geese	142	137 00	190	144 00
Ducks	162	104 50	156	110 50
Pigeons	455	262 25	442	261 25
Pet Stock	18	31 25	38	25 00
Utility Fowls	18	7 00	18	7 00
Sale Class	323	69 00	250	67 00
Dressed Poultry	273	280 00	148	227 00

A Fat Stock Show will be held at Toronto Junction this year, December 6th and 8th, which will be Saturday and Monday. There is also a movement to establish a Live Stock, Horticulture, Dairy and Poultry Show in the City of Toronto, and it is probable that an exhibition will be held towards the end of the present year. The establishment of a National Live Stock Show, under the auspices of the Dominion Government has also been suggested. Having these things in view it will probably be necessary to arrange for the advertising appropriation being increased, so that notwithstanding what may develop, the Ontario Provincial Winter Fair at Guelph may continue to take precedence as the premier Winter Live Stock Show in Canada.

FINANCIAL STATEMENT

of the Ontario Provincial Winter Fair, for the year ending January 31st, 1913.

Receipts.

Cash on hand, as per last Report		$2,988 14
Legislative Grant		9,500 00
Prince of Wales Prize		50 00
Grants to Prize List:		
Canadian Shire Horse Association		50 00
Cattle Breeders' Association		660 00
Holstein-Friesian Association of Canada	$375 00	
Canadian Ayrshire Association	200 00	
Canadian Hereford Breeders' Association	85 00	
Swine Breeders' Association		245 00
Ontario Berkshire Breeders' Society	$100 00	
Ontario Large Yorkshire Swine Breeders' Society	95 00	
Dominion Swine Breeders' Association	50 00	
Western Ontario Poultry Association		200 00
County Councils		265 00
Lambton County Council	$100 00	
Wellington County Council	75 00	
Norfolk County Council	75 00	
York County Council	15 00	
Gate Receipts		3,689 50
Entry Fees		3,869 00
Horses	$566 00	
Cattle	404 00	
Sheep	315 75	
Swine	138 00	
Seeds	46 50	
Judging Competition	121 00	
Poultry	2,034 75	
Stall Fees	233 00	
General Exhibits	10 00	
Advertising in Prize List, 1911		$115 00
Advertising in Prize List, 1912		510 00
Advertising in Fair Building		5 00
Canadian Seed Growers' Association, Specials, 1911		230 00
Birds sold in Selling Class		241 50
Dressed Carcasses sold		687 39
Catalogues sold		135 30
Dressed Poultry sold		14 85
Special Prizes for Poultry		234 00
Rent of Stable		31 00
Prize Money cheque not cashed in 1911		37 50
Entry Fees, 1911		7 50
Miscellaneous		15 27
		$23,780 95
Balance at debit, January 31st, 1913		$1,115 94

Receipts and Expenses, after January 31st, 1913.

Receipts	$1,643 75	
Expenditures		$519 00
Overdraft as per Statement, January 31st, 1913		1,115 94
Credit Balance, May 31st, 1913		8 81
	$1,643 75	$1,643 75

Expenditures.

Directors' Expenses		$199 85
Judges and Judges' Clerks		1,067 45
Judging Rings and Committees		195 60
Public Meetings and Lectures		210 02
Music		95 50
Block Test		109 65
Dairy Test		138 45
Office Help		361 40
General Help (including Superintendents)		1,531 56
Prizes Paid		12,234 25
Horses	$3,220 00	
Beef Cattle	1,591 00	
Dairy Cattle	1,122 00	
Sheep	1,527 00	
Swine	1,319 00	
Seeds	247 00	
Judging Competition	275 00	
Poultry	2,679 25	
Poultry Specials	254 00	
Police Services		$25 00
Printing and Advertising		1,976 63
Postage and Stationery		355 71
Telegraph and Telephone		60 27
Express and Exchange		20 91
Heating Building (fuel)		146 53
Lighting Building		284 34
Fitting Building (including lumber and electric wiring)		407 64
Decorating		122 71
Straw, shavings and poultry feed		435 97
Shavings, 1911		125 60
Dressed Carcasses sold		687 39
Birds sold in Selling Class		254 00
Dressed Poultry sold		14 85
Insurance on Poultry Coops and Stable		89 40
Stabling		43 25
Prize Money of 1911 paid in 1912		83 75
Cartage		37 90
Adjustment awards, Dressed Poultry		35 00
Conference at Norwich of Dairy Exhibitors		25 20
Construction of Subway		3,508 76
Miscellaneous		12 35
		$24,896 89

Examined and found correct,
this 31st day of May, 1913.

(Signed) WILLIAM MCNEIL, *President.*

(Signed) A. P. WESTERVELT, *Treasurer.*

(Signed) G. DEW. GREEN, *Auditor.*

All of which is respectfully submitted.

Signed on behalf of the Executive,

WM. MCNEIL, *President.* WM. SMITH, *Vice-President.* A. P. WESTERVELT, *Secretary-Treasurer.*

Moved by WM. MCNEIL, seconded by A. W. SMITH, "That the Report of the Executive be adopted." Carried.

Moved by A. W. SMITH, seconded by L. PARKINSON, "That the dates for the next Fair be Dec. 9th to 12th, being from Tuesday to Friday, inclusive, the week following the Chicago Fair. Judging in all classes to commence at 10.00 a.m. Tuesday, except poultry, which is to commence at 8.00 a.m." Carried.

Moved by W. W. Ballantyne, seconded by John Flatt, "That a rule be inserted requiring all exhibitors in the Dairy Test to commence milking at the hours of 5.00 a.m., 1.00 p.m. and 9.00 p.m., from the time they enter the building until they leave." Carried.

Moved by L. G. Jarvis, seconded by A. W. Tyson, "That poultry judges be required to remain at the Show for at least two days, and that none of them be paid for their services until the Secretary has been satisfied that they have been in attendance for that length of time, and their work entirely completed." Carried.

OFFICERS FOR 1913.

Honorary President ..... John Bright, Myrtle Station.
President ..... Wm. McNeil, London.
Vice-President ..... Wm. Smith, Columbus.
Secretary-Treasurer ..... A. P. Westervelt, Toronto.

Directors.

Wm. Smith, Columbus.
John A. Boag, Queensville.
Geo. Pepper, Toronto.
Peter Christie, Manchester.
John Gardhouse, Highfield.
W. A. Dryden, Brooklin.
W. W. Ballantyne, Stratford.
R. S. Stevenson, Ancaster.
A. W. Smith, Maple Lodge.
J. E. Cousins, Harriston.
Lt.-Col. R. McEwen, Byron.
L. Parkinson, Guelph.
Prof. G. E. Day, Guelph.
R. H. Harding, Thorndale.
Wm. McNeil, London.
A. W. Tyson, Guelph.
L. H. Baldwin, Toronto.
L. G. Jarvis, Hamilton.
John Flatt, Hamilton.
J. D. Brien, Ridgetown.

Executive Committee.

Wm. McNeil, London.
Wm. Smith, Columbus.
Lt.-Col. R. McEwen, Byron.
W. W. Ballantyne, Stratford.
John Gardhouse, Highfield.
Jno. Flatt, Hamilton.
A. P. Westervelt, Toronto.

Committee on Horses.

Wm. Smith, Columbus.
John A. Boag, Queensville.
Adam Scharf, Cumming's Bridge.
Geo. Gormley, Unionville.
Wm. Graham, Claremont.
James Torrance, Markham.
James Henderson, Belton.
Peter Christie, Manchester.
R. E. Gunn, Beaverton.
A. E. Major, Whitevale.
T. D. Elliott, Bolton.
Robert Graham, Bedford Park.
Walter Milne, Green River.
T. H. Hassard, Markham.
John Gardhouse, Highfield.
J. M. Gardhouse, Weston.
H. G. Boag, Barrie.
J. W. Allison, Morrisburg.
Wm. Hendrie, Hamilton.
Lt.-Col. D. McCrae, Guelph.
O. B. Sheppard, Toronto.
Geo. Pepper, Toronto.
H. M. Robinson, Toronto.
T. A. Cox, Brantford.
E. C. H. Tisdale, Beaverton.
John Hawthorne, Simcoe.

Committee on Cattle.

John Gardhouse, Highfield.
John Bright, Myrtle Station.
A. W. Smith, Maple Lodge.
W. A. Dryden, Brooklin.
Robert Miller, Stouffville.
John M. Tyson, Guelph.
Lt.-Col. R. McEwen, Byron.
W. W. Ballantyne, Stratford.
R. S. Stevenson, Ancaster.
Prof. G. E. Day, Guelph.
John Flatt, Hamilton.

COMMITTEE ON SHEEP.

LT.-COL. R. MCEWEN, Byron.
J. E. COUSINS, Harriston.
JAMES TOLTON, Walkerton.
A. W. SMITH, Maple Lodge.
ROBERT MILLER, Stouffville.
JAMES MILLAR, Guelph.
L. PARKINSON, Guelph.

COMMITTEE ON SWINE.

WM. JONES, Zenda.
PROF. E. DAY, Guelph.
G. B. HOOD, Guelph.
R. H. HARDING, Thorndale.
J. E. BRETHOUR, Burford.
JOHN BARBER, Guelph.
J. D. BRIEN, Ridgetown.

COMMITTEE ON DAIRY.

W. W. BALLANTYNE, Stratford.
PROF. H. H. DEAN, Guelph.
R. S. STEVENSON, Ancaster.
JOHN MCKEE, Norwich.
JOHN FLATT, Hamilton.

COMMITTEE ON POULTRY.

L. H. BALDWIN, Toronto.
WM. MCNEIL, London.
A. W. TYSON, Guelph.
W. R. GRAHAM, Guelph.
R. OKE, London.
W. J. TEALE. Guelph.
J. H. SAUNDERS, London.
L. G. JARVIS, Hamilton.

JUDGING COMPETITION.

PROF. G. E. DAY, Guelph.
A. W. SMITH, Maple Lodge.
J. E. BRETHOUR, Burford.
R. H. HARDING, Thorndale.
W. W. BALLANTYNE, Stratford.
ROBERT MILLER, Stouffville.
R. W. WADE, Guelph.
R. S. STEVENSON, Ancaster.
DR. J. HUGO REED, Guelph.
C. F. BAILEY, Toronto.
WM. SMITH, Columbus.
GEO. PEPPER, Toronto.
W. A. DRYDEN, Brooklin.

COMMITTEE ON SEEDS.

G. A. PUTNAM, Toronto.
PROF. C. A. ZAVITZ, Guelph.
L. H. NEWMAN, Ottawa.
JOHN BARBER, Guelph.
G. B. HOOD, Guelph.
T. G. RAYNOR, Ottawa.
W. J. W. LENNOX, Toronto

RECEPTION COMMITTEE.

PRESIDENT G. C. CREELMAN, Guelph.
GEO. PEPPER, Toronto.
WM. MCNEIL, London.
HON. JAS. S. DUFF, Toronto.
HON. NELSON MONTEITH, Stratford.
JOHN BRIGHT, Myrtle Station.
MAYOR CARTER, Guelph.
ARTHUR JOHNSTON, Greenwood.
J. G. THORPE, Guelph.
A. W. SMITH, Maple Lodge.
JOHN NEWSTEAD, Guelph.
A. W. TYSON, Guelph.
LT.-COL. R. MCEWEN, Byron.
J. M. DUFF, Guelph.
H. GUTHRIE, M.P., Guelph.
CHAIRMAN, RECEPTION COMMITTEE, Guelph. City Council.
PRESIDENT, GUELPH BOARD OF TRADE.
H. C. SCHOLFIELD, M.P.P., Guelph.

Superintendent of Buildings.....D. G. HANMER. Burford.

Assistant Superintendent .....J. H. SAUNDERS, London.

The meeting then adjourned.

PUBLIC MEETING

Hon. Jas. S. Duff, Minister of Agriculture, occupied the chair at the public meeting which was held in the City Hall on Wednesday evening, December 11th. The programme was interspersed with musical selections provided by Captain T. E. Robson and a number of capable assistants.

CHAIRMAN'S ADDRESS.

Hon. J. S. Duff, Minister of Agriculture, Toronto.

I am delighted to be privileged to preside once more at the annual social gathering held in connection with the Winter Fair. I am also glad that the Fair is such a success. I am pleased to know that the people who have come to see the Fair are delighted with the treatment they are receiving at the hands of the citizens of Guelph.

I am not called upon to make a speech to-night and I do not propose to do so, but before commencing our programme I desire to read a telegram from the Honorable, the Minister of Agriculture for Canada, Mr. Martin Burrell. It is addressed to the President and Secretary of the Ontario Provincial Winter Fair: "I desire to express my great regret that my parliamentary duties make it impossible to attend your meeting to-night and the Winter Fair. I wish both the greatest success and assure you of my cordial and active sympathy in your efforts to improve the live stock industry of Ontario." Signed Martin Burrell, Minister of Agriculture.

Without further remarks I have pleasure in calling upon Mr. H. C. Scholfield, M.L.A., to deliver an address of welcome.

ADDRESS OF WELCOME.

H. C. Scholfield, M.L.A.

It is a great pleasure for me to give you a welcome to the City of Guelph. I have been present at this show for a great many years, and during that time it has grown from a very small Fair to a very large one. Fifteen years ago it was held in the skating rink and there were almost fifty head of cattle and about one hundred exhibits of poultry. To-day we have four times or more that number of cattle and over 4,000 exhibits of poultry. The question to-day is what are we to do to accommodate this large number of exhibits? The Dominion of Canada is going ahead, and there is an old saying that "There is a tide in the affairs of men which if taken at the flood leads on to fortune." We are just in the position in Ontario to-day that we need to do things to keep up with the development of the Province.

In New York they have Madison Square Gardens where they hold their great Horse Show. In England, Scotland and Ireland, and also in Germany and France, they have great facilities for holding these Live Stock shows. Why cannot we have the same thing in Canada, and in Canada there is only one place in which it should be held, and that is Guelph. The buildings we have here at the present time are not adequate for the requirements of this Show, but additional accommodation should be provided so that the Show might be made the biggest Show in the whole of Canada.

The Dominion Government has granted Ontario $175,000 for agricultural purposes, and a large proportion of this money should be spent right here in the city of Guelph to make this Show the biggest Show in the Dominion.

ADDRESS OF WELCOME.

MAYOR THORPE, GUELPH.

As Mayor of the city of Guelph, I extend to you all a most hearty welcome to our Royal City. It is a pleasure to have you with us for a week every year, and to entertain your exhibitors and guests at our civic luncheons as guests of the city.

We are a little city of some 16,000 people, noted as a Municipal Ownership City. We now own our waterworks, our gas, electric and power plants, our street railway, and the Guelph Junction Railway, all of which are paying propositions. We have well paved streets, permanent sidewalks, a well lighted city, modern subways, two new railway depots, splendid parks, and one of the best water supplies in Canada. We have over 80 manufacturing establishments in the city, having added ten new factories this year, and while some sections of Ontario are noted for corn, others for beans, and others for fruit growing, the County of Wellington and adjoining counties are noted for stock-raising, and Guelph was the original home of the Fat Stock Show. We pride ourselves upon being the home of the Ontario Agricultural College and great Winter Fair, and want to see them both grow and prosper. Guelph has done all she could to help them in the past, and is willing to continue doing so. But this is not a Guelph Show. It is the Ontario Provincial Winter Fair, and the Province of Ontario should provide the necessary buildings as they may be required. We built the original building at considerable cost to the city on our market square, and two years ago, when the horsemen decided to come in with the cattle and sheep, swine, and poultry men, the Government gave $25,000 towards this additional building, and the city gave $30,000, and the balance of their Market Square. The Show is now an assured success. It is no longer an experiment. It is doing splendid work, particularly along educational lines. In my opinion if a farmer comes here and takes back home only one new idea, as to how to feed his stock or raise grain or roots, he is well paid for his trip. The farmer nowadays must be up-to-date as well as the commercial man or manufacturer, or he cannot compete with his live neighbor. The Show has now outgrown its present buildings, all the departments want more room, and it is up to the Association to say whether they shall add say a fine, large new amphitheatre and horse arena below the railway tracks, with all the horses beneath the seating accommodation and the horse arena in the centre, and use the

room now used for horses to enlarge the dairy and beef cattle accommodation and let them use the present show ring, or whether they shall consider the question of building entirely new buildings on an entirely new site. The city is prepared to give another portion of Freshfield Street if the Dominion Government will give a portion of the Armoury Grounds, and build the amphitheatre there. Or if they decide to accept the suggestion proposed by Mr. Robt. Millar at to-day's luncheon for an entire new set of buildings, they will have to get busy and they want the help of every member of the Legislature to carry it out. And why should not the Ontario Government give it? Ontario is considered the banner province of the Dominion and the wealthiest province, and this expenditure is coming to the farmers and stock raisers of the province, it is due them if we are to keep our end up as we should do. I see no reason why the Dominion Government should not also contribute. I believe the Dominion Minister of Agriculture would favorably consider it. Look at what the Western Provinces are doing. At Edmonton they have spent $570,000 in new Summer and Winter Fair buildings and grounds. And Calgary is spending $500,000, for the same purpose, and at Lethbridge, in the same province, they have spent over $100,000. Regina has also spent a large amount of money on their fair buildings. I visited these places this last summer and know whereof I speak. At Brandon in Manitoba they have erected the finest and largest horse arena in the whole Dominion, and hold a very successful Winter Fair there.

I see no reason why the Government should not be asked to put these buildings up at once. And I would suggest erecting them on say 50 acres adjoining the Agricultural College property on the Brock Road, and have all the Government Buildings together. And then they could possibly be used for other Government agricultural purposes. If that was done the city might return to the Government the $25,000 which they contributed towards the present new addition, and it could be used permanently for market purposes.

REPLY TO ADDRESSES OF WELCOME.

William Smith, M.P., Columbus.

I do not propose to occupy your time beyond a moment or two to-night, but I would like to say to you, Mr. Chairman, as chief of the Agricultural Department of the great Province of Ontario, that I congratulate you on the great success of the Show of 1912.

I listened with extreme pleasure to the very kind words of your local member and to the Mayor of the city of Guelph, and I came to the conclusion that it would be necessary for you, Mr. Chairman, to expend a great deal of money from the finances of this great Province in order to make this Show greater than it is. We have to remember the fact that this is the day of great things, not only in the Province of Ontario, but in the Dominion of Canada. Since this Show was started in the city of Guelph, wonderful changes and progress have been made all over the country, especially in agriculture, and to-day the people of Canada, as well as the people in the great Republic to the south of us, are face to face with one of the greatest problems of the age: How are we going to supply ourselves with food

products? We are almost getting behind, and I do not know that we can have any greater educational feature in the Province of Ontario than this Show in the city of Guelph, that is held year after year. We are trying to convince ourselves that we are able to meet everything that faces us and we are putting forth every effort, and yet we are scarcely able to meet the demand, but we are able to show to the world that the great Province of Ontario can hold its own not only in the Dominion of Canada but our people are able to go outside of it and bring back the sweep-stake prize of the Western Hemisphere. (Applause.) The records of the great Chicago Show held a few days ago demonstrate that Ontario can hold its own as a horse breeding district, and I am delighted and proud that the prize came to the riding that I have the honor of representing.

Ontario might also be proud of the West where they are beginning to show what they are able to do, and one of the greatest achievements than can possibly come to a farmer has come to Mr. McGregor who has a farm near the city of Brandon, and we in Ontario feel that we have a right to congratulate him upon his success at that great Show in Chicago.

This great Fat Stock Show at Guelph has possibly outgrown its limits, and perhaps it would be unwise for me to say anything as to how it should be enlarged any more than this; and I say it in the presence of two members of the Ontario Cabinet, and in the presence of the Mayor of the city of Guelph, that I hope their united wisdom will be able to evolve some plan that will improve matters for the years to come. We are always delighted to come to Guelph, and we look forward to our visit in the month of December as a great pleasure, because the people of Guelph always give us a royal welcome, and as well as taking advantage of the educational features of the Show, we also take advantage of the social features of this city of Guelph.

As a member of the Board of Directors and as Vice-President of the Show, I say to you Mr. Scholfield, as representing the County of Wellington, and to you Mr. Mayor representing the city of Guelph, that we accept the hospitality which you have offered to us. We have taken advantage of your hospitality in the past and we propose to take it to the fullest extent in the year 1912.

NORTHERN ONTARIO.

Hon. W. H. Hearst, Minister of Lands, Forests and Mines for the Province of Ontario.

I want to thank you, Mr. Mayor, the good citizens of Guelph, and particularly the people connected with the Show, for your kindness in permitting me to pay this visit to your city at this time of the year, and to enjoy what I have enjoyed this afternoon. It is the first time that I have had an opportunity of visiting the show at Guelph, and it has certainly been a revelation to me. It is only another proof of the fact that there is nothing better than what the Province of Ontario can produce. The splendid success you are meeting with should be a great encouragement to those who have charge of this progressive Show.

There are many things that have been mentioned to-night with which I might deal, but this is scarcely the time or place for me, as a member of the Cabinet, to make any particular remarks with regard to what my friend, Mr. Scholfield and

the Mayor have said as to what should be done by the Province of Ontario in connection with this Show. All I can say is that this Association is certainly engaged in a wonderful work; it is a great educational feature for the farmers and others who are interested in agriculture and live stock, and the Government will not be doing their duty unless they give full attention to any representations that may be made to them on this point and unless they do everything they can, consistently, with the other calls upon them, to help along this Exhibition. I see a very sorry time ahead for my friend, the Minister of Agriculture, and for the Treasurer of this Province when our friend, Mr. Schofield, trains his batteries upon them and asks for that grant that he is going to ask for during the coming session. If anyone can get inside the iron clad armour of the watch dog of the Treasury, the Hon. Col. Matheson, it will be my good friend Mr. Scholfield. You could see to-night that his good looks were only exceeded by his modesty when he suggested that we should quietly hand over to the city of Guelph the whole sum that the Province of Ontario may get from the Dominion for Agriculture. I have just this one remark to make in that regard: that while you have a good cause, no doubt that is also the case with thousands of other matters pertaining to the welfare and advancement of the agricultural interests and other interests of the Province of Ontario asking assistance. If the Government resources were unlimited, it would be an easy thing to say yes to every request that is made, but the revenue of the Province of Ontario, like the revenue of any other Province or institution, is limited, and we can only give that which we have. There are a great many other places in the Province of Ontario that think that Guelph has been especially singled out by the Government for good treatment and for the expenditure of money. The people in the northern section of the Province from which I come, think so, and there is one thing I hear perhaps more than anything else: "Why is it that the Province of Ontario spends so much money that comes from the richness of the northern section of the Province, in building up and centralizing the great Agricultural College at Guelph? Why should not they take some of that money and establish colleges in the northern section of the Province where the boys of that section, who cannot go such a great distance to college, could attend? I am not suggesting that you are asking too much (of course I know you would not do that): but I am just mentioning these facts to show that we have many things to think about in that regard.

The Hon. Mr. Marshall, the Minister of Agriculture for Alberta, told us this afternoon, how the live stock show buildings were built in the Western country, and he told us that it was not the Government that made this great expenditure, but that the city of Edmonton spent $575,000 in connection with the construction of the buildings there. Nothing will give me greater pleasure than to assist your good friend Mr. Scholfield, and after having seen the splendid work you are doing at this Exhibition, it will be my duty to do all I properly can to further the work.

A great change has come over the agricultural life of the country. I was born in the good County of Bruce, and I remember the conditions on the farm when I was a boy. We did not hear much of such educational work as you have here in Guelph; we did not hear much of fairs such as this or of District Representatives or of advanced education along agricultural lines. In those days, it was thought that any man had sufficient intelligence and ability to be a farmer, and if there was any brains in the family or supposed to be, they thought that boy should be educated for the church or some of the professions; but the boy that was not thought particularly smart, could follow along in his father's footsteps. All that

is changed now, and if there is a boy with brains, he is kept for the farm, because on the farm he has the greatest scope for his brains, ability and energy. (Applause.) To-day it is the dubs who have not any originality in them and who have not any resources in them that are sent to the professions. I say it with all sincerity and being a professional man myself, that there is no walk or calling in life that pays as good returns for scientific education and knowledge as does the agricultural industry of the Province of Ontario, and anything that the Government can do to help to bring to the door of every farmer throughout the Province. advanced education along agricultural lines, it is the duty of the Government to do so far as lies in their power. The Government of the Province of Ontario will not be doing its duty unless they advance along that line as far as possible.

I have been asked to say a few words with reference to Northern Ontario and I trust it will be of interest to you. As Canadians we cannot study too much our own Country and particularly our own Province and all its assets, resources and possibilities, and even those of us who live in that northern land and think we have studied it fairly well, find ourselves unable to form a conception of the greatness that lies before us in that country and the possibilities of development that we have.

Let us look for a moment at the size of our present Province of Ontario. Prior to the last session of Parliament when a large addition was made to the Province of Ontario out of the District of Keewatin, Ontario had an area of 260,862 square mile. Last session, the Dominion Government gave us what we now call the District of Patricia having an area of 157,400 square miles, adding 60 per cent. to the former area of the Province and making the Province to-day 418,262 square miles in extent, and the second largest Province in the Dominion. being exceeded only by Quebec. I do not propose to say anything further about the District of Patricia, although I might spend an evening talking about the possibilities of that great territory. Suffice it for me to say that it has great possibilities as an agricultural country and I believe that some time in the not distant future you will see a large agricultural population in that country. It also has large timber possibilities and we are told that we have a considerable asset in the timber wealth of that new part of the Province. We also know that its formation gives promise of mineral wealth and already applications have come into my Department from parties who have staked out mineral claims in that far off land. Just a few weeks ago, Mr. Tyrrell, who explored that country for the Province, brought to my office some splendid potatoes that he had brought down from Trout Lake, three hundred miles north of the city of Port Arthur, showing that in that country vegetation is well advanced and that agriculture can be profitably carried on.

The figures I will give you to-night and the remarks I will make will be connected entirely with Old Ontario, as I might term it, that is Ontario as it existed prior to the District of Patricia being added. Take Northern Ontario outside the Great Lakes and it has an area of 175,500 square miles. That territory is divided as follows: West of Port Arthur, 41,500 sq. miles; east of Port Arthur and south of the Height of Land, 52,000 sq. miles; north of the Height of Land and east of Port Arthur 82,000 sq. miles. I make this division for the reason that we hear a good deal, particularly in the Toronto Press, about what is termed New Ontario, and very often they refer solely to the country along the Temiskaming and Northern Ontario Railway, known as the Temiskaming Country, forgetting

that New Ontario extends for a thousand miles to the westward of the T. & N. O. Railway line. Through the different sections of that country, there are great stretches of agricultural, mineral and timber lands. Take the area of Ontario outside of the Great Lakes and we have approximately 140 million acres all told. Of this we have only surveyed 46 million acres, leaving unsurveyed, 94 million acres. We have sold or alienated from the Crown only 24 million acres, leaving to-day in the Crown 116 million acres. We are told that we have under cultivation in the Province of Ontario only slightly over 13 million acres or a little more than 10 per cent. of the land that still remains in the Crown. That is the position we are in in connection with the area of the Province of Ontario, showing you the great development that awaits the future. Now, what is the Province of Ontario doing? The field crops of the whole Dominion in the year 1911 were estimated at $565,711,600, of this the Province of Ontario produced $193,260,000 worth, or considerably more than one-third of the whole. The Province of Ontario produced field crops valued at nearly thirteen million dollars more than the two largest producing Provinces to the West, Manitoba and Saskatchewan. When we talk about the great wheat fields of the West, we sometimes forget what we are doing in Ontario. No one glories in the prosperity of the West more than I do, and no one admires the great wealth they have more than I do, but at the same time we must not forget what we are doing in our own Province. To-day we are producing thirteen million dollars worth more than these two great Provinces. What will it be when the northern portion of the Province develops? Ontario for all time to come will remain the banner Province of the Dominion and we will always occupy the premier position that we enjoy to-day.

What have we in the way of agricultural lands in the north? Take what we call the clay belt extending from Quebec on the east to Lake Nepigon on the west, a territory estimated at 16,000,000 acres. But that is not all the agricultural land that we have in the north. In the Districts of Nipissing, Sudbury, Manitoulin, Algoma, Thunder Bay, Rainy River and Kenora, we have millions of acres of as good agricultural lands as can be found anywhere on the North American Continent, and much of the land that I have told you about in the north-western section of the Province will bring just as good returns and just as good results as the clay belt. Again I say, what will it mean to Ontario as an agricultural country when all this land, twice or three times as much as is now under cultivation, is brought under cultivation?

One of the great assets that we possess in the Province of Ontario is the diversified nature of our resources. We have assets of almost every kind and I would ask you to bear with me while I speak of our mineral resources. I find that in the year 1904, we produced in round figures over $11,000.000 worth of minerals, while in the year 1911, we produced practically $42,000,000 worth, showing the splendid progress that has been made in seven years in the mineral development of this Province. In the year 1911, we produced in round figures over $16,000,000 worth of silver alone, making the Province of Ontario stand third among the silver producing countries of the world, only being exceeded by the United States and Mexico. We are now able to say that one ounce out of every seven of silver taken from the world's crust, comes from the little mining camp of Cobalt in your own Province. It is something to boast of also when I tell you that 70 per cent. of the nickel produced in the world to-day comes from your own Province of Ontario and that mineral production of every kind is making a splendid showing.

Let us look at what Cobalt is doing to-day in adding to the wealth of the world: Cobalt yielded to the mine owners up to the year 1911 practically $65,000,000, and in 1911 alone she yielded practically $9,000,000 in dividends to the owners of the mines. The dividend paying mines up to the end of last year paid over $30,000,000 in dividends. We have not, however, alone these splendid silver mines at Cobalt. Porcupine gives fair promise of making the Province of Ontario as famous for her gold as Cobalt has for her silver. The Porcupine camp is only in its infancy; gold mines are not so easily developed as silver mines, but already we have some splendid producing mines in the Porcupine Country. I want to say one word in connection with these Porcupine gold mines: Remember that every piece of ground in the Porcupine country is not a dividend paying mine, and do not go out to-morrow and buy stock on the street and say "I bought it on the advice of the Minister of Lands and Mines, who told me that Porcupine was a splendid gold camp." Remember that there are a great many more people engaged in mining the pockets of the people than there are engaged in extracting gold and silver from the earth itself, and it is these people you want to look after.

But we have not alone the deposits of gold and silver that I have spoken of in these two great camps, but traces of gold and silver can be found extending from Quebec on the east to Manitoba on the west and particularly in the Webbwood country, Michipicoten and the Lake of the Woods country, and there are also great mineral possibilities in the Port Arthur section at Atikokan and the Lake of the Woods. I believe that as the T. & N. O. Railway opened up the Cobalt silver mines, and as the C. P. R. opened up the Sudbury nickle mines, other railways and waggon roads will open up additional mines all over that northern country. Silver and gold mines make some millionaires, but the basic metals such as nickel and particularly iron, help to build up the industrial life of the country, because they are the metals that employ armies of men in reducing the ore into different products that are so universally used in the country to-day, and one of the foundation stones of Ontario's greatness is the amount of these minerals that we have in the north country.

Just for a moment, let me compare Ontario in this regard with the Dominion. The total output of minerals for the Dominion last year was some $105,000,000, and the Province of Ontario produced $42,000,000 worth. If you exclude coal, of which the Province of Ontario produces none except white coal, you will find that in the metals the Province of Ontario produced some 65 per cent. of the whole mineral production of the Dominion. That is the record up to 1911-1912. For the first nine months of the present year, the mineral output of this Province amounted to $25,000,000, and of this gold for the first nine months of the present year amounted to considerably over $1,000,000, and that is more than twice as much gold as was ever produced in twelve months in the Province of Ontario before. You can see what we are doing at the gold mines during the present year.

We have not alone agricultural resources and mineral resources, but we have perhaps the greatest timber resources of any country in the world. Let me tell you something of what we have in the way of timber resources at the present time. On a low estimate we have on Crown lands, vested entirely in the Crown and in which no private individual has any interest, over thirteen billion feet of red and white pine, as fine as can be found anywhere in the world. We say the Province of Ontario has in that an asset of $135,000,000. We have in pine on licensed land, from which the Province collects a revenue, seven billion feet which is an asset of

over $10,000,000. We have over three hundred million cords of pulp wood worth $225,000,000. We say we have in Ontario in our timber an asset of $370,000,000. The importance of that asset to the Province of Ontario may be judged of in many ways. In the first place, as a matter of revenue to the Province, you will find that from Confederation down to the end of October, 1910, we collected in revenue from our timber practically $45,000,000, or an average yearly revenue of over one million dollars from our Crown timber. If it were not for our timber, I am afraid my good friend, Mr. Scholfield, would have to plead in vain for the Guelph Fat Stock Show.

Let us look at it from another standpoint, the industrial standpoint. Our splendid supply of lumber and timber has meant great development in our manufacturing industries. In the lumber industry alone, we find that in 1911, the timber cut in the Dominion of Canada was over $77,000,000 worth, and the timber cut in the Province of Ontario was over $30,000,000 worth or practically half of the whole Dominion of Canada. $30,000,000 distributed from that one industry. That went into the pockets of the farmers and laborers and others engaged in that business. Let us take the forest production of the Dominion. In 1910, it amounted to $166,000,000 or $22 for every man, woman and child in the whole Dominion of Canada. You can understand from these figures the great importance of our timber resources, and it is certainly a large and important question for the Government of Ontario, and particularly of the Department to which I belong, to properly conserve that asset. That is one of the matters that has given us much concern, and to-day we are giving it much attention, and I have just recently stolen from my friend, Mr. Duff, Professor E. J. Zavitz, who is known to many of you here, and who has made a splendid reputation in forestry. To him has been given charge of considering this question and studying it from every standpoint, so that he can give me the best information possible with reference to a practical way of conserving our forest wealth. You hear a great deal of talk about reforestation by men who have given very little thought to it. There is a question of the timber getting ripe just as any other crop gets ripe, and when once the pine tree or any other tree has become ripe, it starts to deteriorate unless it is cut, and there is the question of cutting this ripe crop of timber, and then there is the question of settlement. You cannot grow crops of grain and vegetables on the same land that you grow crops of timber, and as the settlement rolls back the forest well-tilled fields take the place of the timber, and we have to consider all these questions. No one would say we should reserve good arable lands simply for the purpose of conserving the timber, but there is the great question of the best way of utilizing the timber on the settler's land in that north country. We should as far as possible see that that timber is utilized for some industrial purpose, and that as the settler goes on his farm he will have a market for his timber, and we should see that the manufacture of that timber will give work for our citizens. That is one of the things we have in our mind, and one of the things we are accomplishing. We are establishing pulp and paper mills in different places in the northern country so that they will consume the pulp wood that the farmer produces and give him a market for his produce.

Another way in which we are conserving the timber wealth of the Province is in setting apart timber reserves in which we do not permit any settlement, and in which we are trying to keep out the fire as much as possible, and around which we are throwing every possible safeguard. We now have large areas in these

forest reserves. In the Temagami forest reserve, we have over five thousand square miles, in Mississaga three thousand square miles, Nepigon reserve eight thousand square miles, containing from ten to fifteen million cords of pulp wood; Quetico 1,560 square miles, containing one and a half billion feet of red and white pine; Algonquin Park over two thousand square miles and the Rondeau Park eight square miles, making a total of over twenty thousand square miles upon which we have over nine and a half billion feet of pine, and fifteen million cords of pulp wood and two million cords of spruce. We are adding to these areas from time to time.

In that north country of which I am speaking, we have another very, very important asset in our splendid water ways stretching all across the northern part of the Province. The Transcontinental Railway in its course through the northern part of the Province crosses some nine rivers having a length of from 150 to 250 miles each. These nine rivers have a total length of practically 2,000 miles and are navigable for the greater portion of that distance. I am told by my engineers that within one hundred miles of the Transcontinental Railway on these rivers we have two million horse power. Just stop and consider what two million horse power means in that particular section of the country. It is not, however, alone in that section that we have water powers; we have them practically unlimited throughout the whole of that northern country. In Rainy Lake, Lake of the Woods and the rivers connecting and flowing out of them, we have hydraulic power that almost rivals Niagara itself. That means one thing and only one thing: that having gathered together in the great store house of the north country these raw materials of minerals and timber, and having there unlimited waterpower, in the years to come it will be one of the great manufacturing centres of the Continent of America. It means in the days to come, that it will not be a sparsely settled country, but that it will equal in railway tonnage, if not in population, territories to the east and west, and that he will have a great factor in that north land for cementing the east to the west and the west to the east, and that we will no longer have a barren uninhabited spot between the Provinces to the east and west, but we will have a cementing link that will hold and bind this great Dominion together, helping us to be a united people working together with one common aim and one common purpose, the development of a great nation on this northern half of the American Continent.

Let us think for a moment what the possible future will be of Hydro-Electric power. We can appreciate something of the tremendous progress that has been made in the last five or ten years, but it is hard to prophesy what may be done in the next ten or fifteen years. Is it very much of a stretch of imagination to say that in the years that are to come not only will our factories be operated by electricity, our pulp and paper mills run by electricity, our streets and homes lighted by and our cars and motors operated by electricity, but our settlers will have their lumber cut by electricity, their grain threshed, their cows milked, their butter churned, their houses lighted and their bread baked by that same white coal that is so abundant in that great north country. I believe that electricity is one of the great things that will help to build up that northern section of the Province generally. These magnificient rivers I have told you of and others of a like character form splendid waterways for transportation purposes, but the rivers alone are not sufficient for the development of that country. We must have railways and waggon roads and electric roads. Some of you have travelled through what you term Northern Ontario. I have no doubt you have travelled from Sudbury to

Kenora on the main line of the Canadian Pacific Railway, and you have said that it is the most God forsaken country you have ever passed through, and you have wondered what Providence ever made it for, and it certainly is a most barren section of country. What timber may have grown there has been largely destroyed and the country is of no agricultural importance, and unless we have some mineral wealth there, that section will be of no economic value that I know of. The C.P.R. Company were looking for a through line between the east and the west; they knew nothing of the possibilities of Northern Ontario at that time, and all they were looking for was a short line that would be as easily constructed as possible, and therefore they largely followed the Height of Land, and you have only to go a few miles to the south when you come to a splendid country, with beautiful valleys, containing fine agricultural land and good timber, and with hills filled with valuable minerals. In fact the best iron-producing mine that we have in the Province of Ontario to-day is in that section. The C.P.R. did very little for Ontario as far as colonization is concerned, and that is one of the difficulties with the C.P.R. that for five hundred miles they have no local traffic. But let us look at the other railways that have been constructed and are being constructed in that northern country. The C.P.R. has a mileage of about one thousand miles; the National Transcontinental has a mileage of 761 miles in that country; it pierces the northern portion of the clay belt, which is a wonderful agricultural country; in fact from Quebec on the east for three or four hundred miles, the Transcontinental passes through just as rich agricultural land as you have in your own famous County of Wellington. The Canadian Northern has 1,043 miles of railway in that northern portion of the Province. It extends through the southern portion of the clay belt, opening up a splendid section of agricultural land. The T. & N. O. Railway, which extends from North Bay to Cochrane, a distance of over 250 miles, opens up that section of the clay belt. The Algoma Central extends from Sault Ste. Marie to Hearst, a distance of about 300 miles, so that we have under construction or already constructed in that northern part of the Province over three thousand miles of railway, and I ask you to stop and consider what that means towards developing that country.

Notwithstanding all this, the development has not been as fast as in the west. We have been doing something in connection with peopling that country, and five or six years ago we had less than five thousand people in Temiskaming, while to-day we have from seventy to eighty thousand people in that section. In four agencies alone, out of many agencies that we have in that north land, I find that some 1,372 bona fide settlers have paid for their lands and gone on to them, making a total of 200,000 acres taken up in that particular way. The Rainy River Valley is some seventy-five miles long and twenty-five miles wide of as rich agricultural land as you can find anywhere, and the reports to-day tell us that the settlers in that section will produce a million dollars' worth of crops.

My good friend, the Minister of Agriculture, attended the Fairs there with me this fall. We attended one at Emo, and he will bear me out in saying that nowhere in the Province of Ontario has he seen a finer exhibit of roots and grains and other crops than we did at that Fair. The settlers in that section sold from their farms last year over a quarter of a million dollars' worth of timber. That amount of money went into the pockets of the settlers in that one district. I would like to have spoken about the splendid products of that country. It grows grass and clover

and alfalfa of the very finest quality, and as a fodder- producing country, I do not think there is an equal, or at any rate any better, on the continent, and as a grain-producing country it has a great future.

Sometimes you are apt to think of it as the great frozen north, and we are perhaps perpetuating that idea by the name of Northern Ontario, but if you will only stop to think that Cochrane is 250 miles north of North Bay and yet it is 50 miles south of Winnipeg, and that very much of what we call Northern Ontario is south of the international boundary between Canada and the United States, you will, I am sure, admit that Northern Ontario has a great future before it.

As a Minister of the Crown, I represent the whole Province, and while the northern part of the Province is particularly in my charge and keeping, still I have an interest in one part of the Province as much as the other. I am not here to suggest to any young man or old man that he should leave the older part and go to New Ontario. I believe there are splendid lands yet in Old Ontario that might be put in cultivation, and that there are many fields that might be tilled so that they will bring forth greater fruit than what they are producing; but I do say this, that if you want to leave this part of the Province, and if you want more acreage for your boys, and if you want cheap land, that there is no richer field for agriculture in the West than you have in your own Province of Ontario in that part of the Province of which I have been speaking.

As a Canadian I love the whole Dominion of Canada and am anxious to see it develop, but I am no worse a Canadian because I am anxious to see my own Province develop first of all, and my first duty, my first thought, my first care, is to my own native Province. The Provinces of Nova Scotia and New Brunswick have their mineral, their coal, their timber, and their orchards. The grand old Province of Quebec has her mighty St. Lawrence and her ever-extending commerce and agriculture. The Province of British Columbia on the Pacific Coast has her mineral and scenery and timber; Alberta has her flocks and herds and her gas and her coal; Saskatchewan and Manitoba have their millions of bushels of golden grain, but to me the banner Province of Ontario is the flower of them all, possessing as she does in a goodly measure all the resources of the other Provinces, except coal, more than compensated for by a splendid supply of white coal, and possessing for her greatest asset a well-cultured, well-educated, intelligent and God-fearing people, not excelled any place on God's green earth to-day. (Great applause.)

We have a splendid heritage that calls upon us for development. We have unlimited waterways to float ten thousand ships and to make Ontario great, as the freedom of the seas made Great Britain great. We have water powers to develop unlimited electricity to light and heat our homes, to furnish transportation, to turn the wheels of commerce when coal and heat and fuel have become exhausted. Great assets and great opportunities, however, bring great responsibilities, and it is given to the people of the Province of Ontario in a special way to guard forever the future of this great Dominion. We are the keystone of the great Dominion, binding the east to the west. We are that in a geographical sense; we are that in a commercial sense, and I want to see us that in a patriotic and intellectual sense as well. One of the great dangers that Canada has to-day is in the thousands of immigrants that come to her shores who know nothing about Canada, about Canadian ideals or the Canadian form of fair government. We are adding to our population to-day by immigration over 300,000 annually, and we only add to our population by natural increase 80,000, and it is said that in twenty years, at the present rate of

increase, the immigrants coming to our shores will equal our present population with the natural increase. What is the great duty of the premier Province of Ontario? It is to maintain a splendid citizenship, and to have an influence that will help to lift these foreigners that are coming to our shores up to the high ideals of British law and British citizenship. I believe a great duty has been given to the people of the Dominion; I believe this Dominion is bound in the years to come to be the dominating influence in the great British Empire, whose flag encircles the world, and I believe it is given to us, the people of this great Province, with the opportunities which we possess in this splendid environment, to carry aloft the torch of a civilization greater and better and nobler than the world has yet seen. Let us see to it that you and I do our duty as Canadians and prove worthy of the splendid heritage God has given us, and if we do there is no danger for the future of the British Empire. (Great applause).

ADDRESS.

JOSEPH DOWNEY, ORILLIA.

When I received the very cordial invitation of the Executive of the Winter Fair Board to be present and to address this meeting, I accepted the invitation with a great deal of cheerfulness. In the first place, because it held out to me a very reasonable and justifiable excuse for taking to myself the pleasure of looking again on the face of good old Guelph, meeting again my many friends and renewing friendships that were formed many years ago—friendships that will last as long as life lasts, and no matter how old I may grow the memory of these friendships will occupy a place in my heart.

I am now back on the land where I spent the best years of my life—my childhood days—and where I hope to spend my declining days. My honorable friend, Mr. Hearst, in his admirable address has made brief reference to the changed conditions on the farm. I can remember as a boy seeing the cradlers in bands travelling through the townships as they swung their conquering way through the fields of grain. The cradler has gone; he is almost as extinct as the Dodo, and the man who can bind a sheaf of grain is as scarce as good oxen. Do you remember the music of the scythe? Many whom I am now addressing never heard that sound. The other day I saw a vessel with 325,000 bushels of grain unloaded at the great four-million-bushel elevator at Port McNicoll. Thirty thousand bushels of grain were moved from the bowels of the vessel every hour. On the other side of the elevator a train of cars was being loaded for Montreal, one car every four minutes. Not a sound was heard, no orders being given and no confusion; and I thought as I witnessed it that I had seen more excitement, more noise and worry in loading one farmer's waggon at Holland's grist mill thirty-five years ago. The improved facilities for loading vessels at Port McNicoll over the facilities at Holland's mill thirty-five years ago are in proportion to the improved facilities that we have on the farms to-day over the facilities that our fathers had in the pioneer days.

What have we done with the increased facilities that we now enjoy? The pioneers had to get results; they had to push back the forests, and every farm was a battlefield and every clearing a factory, and the pioneer mothers endured

all the hardships and all the privations and discomforts of utter loneliness. Are we, the heirs in possession of the fruitage of their labor and toil, making progress in proportion to the way they made it? Have we taken industry by the hand and proceeded to farm every acre better, or are we using the improved machinery that we have merely for the purpose of farming more acres?

I can remember a few years ago on the hillside, this side of the College, there being fourteen hundred bushels of turnips grown to the acre. How many farms in this Province of Ontario within recent years have had anything approaching that yield? Mr. Hearst may say "I feel proud of our country." I sometimes think we have exaggerated the idea of our importance. Let us go back to the elevator that unloaded 30,000 bushels of grain per hour. Last year in this Dominion we had 215 million bushels of wheat, and working that elevator twenty-four hours a day it would take three hundred days to lift the wheat crop of Canada in one year. The wheat production of the world is 3,500,000,000 bushels, and when we consider that the United States produced nearly 700,000,000 bushels of wheat, that Russia produced 500,000,000 bushels, and that France produced over 300,000,000, and that British India produced 500,000,000, and that the State of Illinois produced in corn as much as the whole of the Dominion of Canada, we must begin to think that we have a long road to travel, and it is well that we should remind ourselves of this occasionally. We have a long road to travel before we attain the position that we are getting to the limit of our possibilities.

How are we using this improved machinery that we have? Canada is producing about twenty bushels of wheat to the acre; Germany twenty-nine; Great Britain thirty-three, and Denmark forty-two. And in oats Canada is producing thirty-five bushels to the acre, Germany fifty-one, and Great Britain forty-four. In barley Canada produced twenty-seven bushels per acre, Germany thirty-five, and Great Britain thirty-five. The average yield of potatoes in Canada for the last fifteen years has been 116 bushels to the acre; Germany produced over 200 bushels to the acre, and Great Britain over 200 bushels to the acre. We thought that our seventy or eighty million bushels was a lot of potatoes, but how does our production compare with that of Germany, where they produced 1,600,000,000 bushels of potatoes in the year 1911? For every bushel of potatoes we grow in the Dominion of Canada, the Germans grow nearly twenty-two bushels. Again, I say, there is room for improvement.

Burbank, the great wizard of the Pacific Coast, and Prof. Zavitz, to whom the farmers of this country owe a debt of gratitude that they will never be able to pay, because of his splendid services in the interests of Field Husbandry—these men are learning every day, and the most progressive farmers in the Province are learning every day, not only by their own experience, but by the experience of others, and every farmer in the Province should be taught the same. The man who says he cannot do better has ceased to do well.

I am trying to impress upon you that there is great room for improvement, and that it behooves every farmer within the border of the Province to see to it that he brings into the accomplishment of his work the best intelligence that is available. His calling is an exacting occupation. It requires thorough knowledge of the problems that confront a man who is engaged in mixed farming; it requires courage to farm and courage to grapple with the disheartening and distressing conditions that he encounters, and patience to wait through the long, dark rainy days for the rift in the clouds and the sunshine.

My honorable friend, the Minister of Lands and Mines, has referred to the mineral resources of New Ontario which down through the ages have been kept locked in the earth's bosom. There we have great stores of gold and silver awaiting the coming of adventurers and prospectors. No one desires to detract from and no one wishes to detract from the indomitable strength of the men with the pluck and perseverance and hardihood who went into those vast regions and made Cobalt the leading mining camp of the world to-day, but what is all the gold washed from the sand of the Klondike or the crushing of the stones of Porcupine compared to the gold of agriculture? If all the mines were closed down to-morrow we could stand the strain, but if agriculture ceased for twenty-four hours thousands would starve. The miner gets results, it is true, but the results that come from the mines are in no way to be compared with the results that flow from the labor of the husbandman.

Before I sit down I want to say a word of congratulation to the members of the Executive of this great Winter Fair. As a former citizen of Guelph, I am proud of this great Exhibition. Every member of the Executive has labored zealously for the interest of this Fair and we shall never be able to repay them, but I believe there is one who is never in the spotlight; you do not see him appearing at this meeting, and those of you who visit the Fair and see the exhibits scarcely know him. There is one who to a greater and higher degree deserves credit for this Exhibition and splendid results that have been attained. I refer to my good friend, Mr. A. P. Westervelt. (Applause.) Although I have a high opinion of the services I am rendering to the people of this Province, and the services that my friend Mr. John Bright is rendering to the people of this Dominion, I am of the opinion that not in the service of the Province of Ontario is there a man who is seized with such enthusiasm for the work that he has in hand and who is accomplishing greater results than Mr. Westervelt is in the discharge of his duties in connection with the Live Stock Associations of this great Province of Ontario.

A word has been said as to the necessity for increased accommodation. I would remind those who say that Guelph should supply the money that it was this city that gave birth to the Winter Fair, and it was this city, through its enterprise and self-sacrifice and the labor of a few of its citizens, that organized and carried on for years, the old Guelph Fat Stock Show, and afterwards that Show was merged into the Exhibition held under the auspices of the Ontario Agricultural and Art Association. It was the work of the Guelph Fat Stock Show that gave to the Ontario Agricultural and Art Association the confidence to go on and make a Provincial show of what was then merely a local show. Guelph is not asking for something for herself, but she, in common with the rest of the Province, is appealing to the Government for assistance for the farmers of the whole Province, and it is not merely for the advantage of the farmers in the neighborhood of Guelph.

HEREDITY AS AN INFLUENCE IN MILK PRODUCTION.

H. Barton, Professor of Animal Husbandry, Macdonald College, Que.

The subject assigned to me this evening seems peculiar on this programme. While it is very old, having been recognized and studied for centuries, it is also very new, particularly to the stockman, because by him it has been very imper-

fectly understood and appreciated only to a limited extent. Some one may say there has been little to interest him, for even the scientist has been groping in the dark. The last few years, however, have brought something to light and a promise of something which should result in bringing this subject nearer home to the breeder. In our records of milk production alone, while not yet extensive, there is already sufficient information available to give us at least an intelligent interest in the operating of this mysterious force called "Heredity" in so far as how it seems to behave in the quality of giving milk. Someone has said that the question of heredity is as limitless as the forms of life in both plant and animal. I assure you it is not my intention to cover the subject in the time at my disposal; and I wish to make it clear that in my discussion of heredity in relation to milk production, I shall make no attempt to treat the technical side of the question, nor do I hope to disclose any of the mystery in which the working of this force is shrouded. My remarks will be of a very elementary character and for the most part a review of a little information already published.

When this subject was suggested to me, I fully realized that it was an exceedingly difficult one to treat in limited time in such a way that the average man would get anything out of it. However, I was very much pleased that the Winter Fair authorities should place such a subject on their programme, because while for the practical live stock breeder only a commencement has been made thus far in deducing definite information, sufficient progress has been made, particularly in the last few years, to merit his attention. I shall, therefore, attempt to place you in touch with a phase of the subject, being studied in reference to milk production, and to give you some of the information thus far obtained.

I am perfectly aware that many breeders for many years have known and worked on the assumption that there is a tendency for transmission of likeness from one animal to another, in fact this has been the corner stone of progressive breeding. I have seen and heard this statement throughout my time, in the press and from the institute platform, but the one fact that there is a tendency toward this reproduction of likeness has been, for the most part, the extent of the information.

To what extent the tendency holds, how it may be affected by various members in the ancestry, the age of the parents, the degree of development of the character involved, violent outcrossing and various other factors which are frequently a part of breeding, not very much has been said. Certainly we may look for more from this out. The subject as it stands was given to me by those in charge of the fair, and the very fact that it should be worded as it is, "Heredity as an influence in milk production," is significant. It suggests an ambition to distribute and apply whatever knowledge there may be available on transmission for this particular work. This looks like a new departure in subjects and a fresh appreciation for a subject that has usually been considered to belong to the scientist only.

We, in Canada, are hardly as keen in many ways (perhaps I had better qualify it) as our American friends across the line, where for some time, they have been searching their mass of records in quest of some understanding as to how this tendency of transmission was working in milk production as shown on their record books.

At the meetings of the various Breeders' Associations during the past year or two the information obtained has been given to the breeders.

Two great reasons why we do not better understand more of the working of heredity with dairy cattle, or any other class of live stock are because while some of our breeds are of long standing, our records are very imperfect, and those

which are available have not been fully studied. We have a rare opportunity in this work with dairy cattle for the reason that very definite records can and have already been made; and moreover they are official and authentic. There is just this to add, however, in reference to our present situation, the work is somewhat new for a study of transmission, for while it is true official records have been compiled in Canada for some years, yet when we consider that three years, at least, are required before progeny can be recorded, and that these records naturally started in a small way, it is apparent that they must necessarily be yet quite incomplete in this country. Our advanced registry, for instance, is only about five years old, so that very little is available in the transmission of dairy qualities. The cows registering in the first few years, you will understand, will not have their ancestors registered, and on the other hand these in turn are only beginning really to have progeny registered. However, each year this work is becoming more general and widespread and each year a new generation, larger than any preceding, is added and in a short time we shall have a fertile and valuable source of information on the behavior of dairy qualities in transmission. We have, all told in the Canadian Holstein-Friesian record of merit 829 females and 53 males recorded. While these are very few in comparison with what the American Association has to work on, they offer some suggestive information.

I had thought perhaps some reference to our own records might be of some interest, and with the hope of arousing a little ambition to study them more closely, I have planned to give you some of the evidence they furnish in addition to some facts revealed by the American records by American authorities. We must remember, however, that our Canadian records are only commencing to be fairly representative.

The common mistake in the past has been in making too much of the individual, and not enough of its complete ancestry as well as the whole, race or group to which he or she may belong in attempting to draw a conclusion in breeding. There is no doubt a greater tendency to do this with animals, becauses the number in comparison with plants, which can be easily controlled, is necessarily limited, and time and expense involved are—of course—much greater. The principles of heredity will hold for the majority, and if a man knows that in the majority of cases certain results will be the outcome of certain practices, that by breeding from a certain class of animals he is likely to obtain in the majority of cases what he desires, and if on the other hand he ignores certain considerations he is likely to meet with disappointment, if he is able to relate practice with result, cause with effect, even in the majority of cases, with some confidence, he is able to operate intelligently and adopt in so far as is possible a progressive policy. His disappointment as well he may have some chance of understanding.

The reason why he cannot guarantee himself favorable results in every case is because while "like produces like," as the old saying has it, there are many cases in which like produces very unlike, in fact no two individuals are exactly alike, as any breeder can testify. There are always more or less extreme variations, in other words good cows may and do produce poor cows occasionally, and in some cases poor cows may produce good cows, but these are the exceptions, and not in accordance with the principles of heredity which will hold for the majority, and the larger the number considered the more exactly will the laws of heredity operate.

Now, then, let us notice some of the compilations that have been made. Professor Davenport of Illinois, who was one of the first to investigate records, has

published a table from the American Holstein-Friesian records with which we would do well to familiarize ourselves. Many records have been made since the table was compiled, but it includes 608 mature cows, and there is no reason to believe but that the facts brought out would be even more fully established were the additional records included.

This table includes mature cows and their offspring when mature and with records ranging from 11 to 28 lbs. of fat in 7 days.

The general average of the dam was	15.368 lbs.
The general average of the offspring was	15.316 lbs.

Among other things, the table shows variations conspicuously; for instance one 16-lb. cow and one 20-lb. cow were produced by 11-lb. cow. Of course good bulls were used on all those cows; they would vary, but the whole number would average as good bulls. One 24-lb. cow was produced by a 14-lb. cow, on the other hand one 23-lb. cow produced one 12-lb. cow, and one 20-lb. cow produced one 11-lb. cow.

However, taking all the cows below the average, there is a tendency for these cows when mated with good sires, some of which were undoubtedly superior to themselves, to produce cows better than themselves, or cows more nearly the average. With cows above the average there is a tendency for them when mated with various bulls to produce cows a little below themselves and more nearly the average. All of which goes to show that it is easier to bring cows up to the average than it is to take them beyond it, the farther above it they are the more difficult will it be to maintain the standard. This explains as well why we are often disappointed with the offspring from phenomenal cows. In the first place they are difficult to mate with a bull of equal merit, and in the second place in any case there is a tendency for their progeny to fall more nearly the average.

However, this also is shown: The majority of good cows are from those above the average, the majority of poor cows are from those below the average, and the better our cows are uniformly the better will be their progeny, although on the average they will likely fall below their dams, unless the bull has been of superior merit.

This table also teaches another thing: the man with two or three cows with phenomenal records who is selling all his calves on the strength of these records is not doing the breed any good, because in every herd and from every class we may take it for granted there are going to be both good and bad, and no matter what standard we have reached we must keep culling and weeding out those poor variants that are bound to appear. No man, therefore, can sell or buy the individual on the strength of the breeder's or herd's reputation alone.

M. A. Harper, of Cornell, has more recently published some data gathered from the advanced Register. His work included 3,070 cows. These he classified as follows:—

	Number.	Percentage.
Both sire and dam in register	1,196	39
Neither sire nor dam in register	710	23
Sire in register, dam not in register	770	25
Dam in register, sire not in register	394	13

Harper remarks that the minimum requirement is not difficult to make, that records in the register vary a great deal, and that there are many cows outside the register capable of making it, so a register's real efficiency will not be apparent until the cows are classified on a basis above the requirement. Classifying them on a basis of 50 per cent. above requirements and also 100 per cent. above requirements, the above percentages gradually change to the following in the case of the cows doubling the requirement or making 100 per cent. above it.

	Number.	Percentage.
Both sire and dam in register	123	73
Neither sire nor dam in register	5	3
Sire in register, dam not in register	25	15
Dam in register, sire not in register	15	9

It will thus be seen 73% of the cows in this class have both sire and dam registered, while only 3% have neither registered.

In classifying bulls on the basis of the number of daughters they have registered, his lowest class, those with nine or more A.R.O. daughters including 28% of the sires—58% had sire and dam registered, and 12% had neither sire nor dam registered. As the number of daughters was raised the percentages again gradually changed until in the case of the sires, of which there were only five or six per cent. with 75 A.R.O. daughters or more, 100% on every one of these had both sire and dam registered. And, of course, none had neither sire nor dam registered, although this was the case when the twenty-five daughter class was reached.

Canadian.

From our own Canadian records I have made a few compilations, and while they are not extensive and hardly as representative as we should like, they are again at least suggestive and much in accord with the American records in what they show. They are beginning to give us results, and every dairy cattle man will do well to be a student of records.

Like the American records, no doubt various individual records will have individual factors to explain them, the cow's development, the bull, etc., but numbers will tend to minimize the influence of the exceptional factor, and in any case will give us an average. That is as far as we can go at the present time, and surely that distance is worth going; it is the basis of every rule after all.

In the last two volumes, IX. and X., of the Can. Hol. Fr. R.O.M., there are 112 new records (additional not included). Ninety-one of them, or 80.3% show recorded ancestry in R.O.M., or within the second generation. Twenty-five of them, or 22.3%, have both sires and dams recorded. Forty-two of them, or 37.5%, have either sire or dam recorded.

In volume X. there are 190 new records (additional not included). One hundred and seventy-seven have recorded ancestry—93.1%. Sixty-four have both sires and dams recorded—33.6%. Seventy-three have either sire or dams recorded—38.4%.

A man may enter as many cows as he likes from one year to another, and there is no doubt a tendency for a man to enter as many as he can. This increased percentage of cows, however, with recorded ancestry from one volume to another is not due to the fact that the same men entered a larger number each year, in which event naturally we might expect they would be bred from recorded ancestry.

A compilation of the breeders clears this up:—

Vol. IX.—112 records includes 56 breeders—average 2 records for each breeder.

Vol. X.—177 records includes 81 breeders—average 2.3 records for each breeder.

—

25 new breeders.

No doubt good cows untried are numerous which could make records—but this also is true—25 new breeders is quite an exploring force, and, moreover, the men with record cows are live wires, and in my observation are not slow to explore either, so that capable outside cows should have fair representation.

All Heifers Under 3 Years of Age.

120 *New Records.*

101 with recorded ancestry or	92.5%—7.5%
40 with both sires and dams	33.3%
15 sires alone or	12.5%
29 dams alone, or	24.1%

If the standard is raised to 12 lbs. fat and over we find that the percentage decreases somewhat, and no doubt due to the small number, only 18, and the fact that heifers without record ancestry are not likely to be entered unless they promise something really good, and while these are few there are enough of them to materially influence the percentage.

Going farther—we have a few—17 and 18 lb. heifers, but all of them, or 100% have record ancestry. On the face of this evidence it seems fair to conclude that record cows are breeding record cows, and while it could hardly be taken to mean that out of every hundred cows tried 92% of those that qualify would have record ancestry within the second generation and eight would have none, our chances of breeding record-making cows and bulls, particularly of the phenomenal class, are certainly best when we mate animals of record of merit standing. The seven-day test is frequently criticised, and while most of us will agree it cannot furnish as much information as a thirty-day test, and while I prefer a thirty-day test to a seven-day test, I much prefer a yearly test to either of them, and again a five yearly test to one of twenty months. In other words, the larger and more complete the record, unquestionably the more reliable and representative it is. This we must admit, however: the evidence as we are now obtaining it justifies the existence of the seven-day test for the purpose of which it was intended. It has done much to advance the breed and is serving as an effective guide in directing breeding operations. This little evidence is only a fringe of what will be available in reference to many factors in a short time, but if I have succeeded in interesting some of you to study what and how cows are breeding I shall not feel that I have been too much of an imposition.

Before sitting down, however, I want to touch on the matter of pedigree, and its interpretation as a guide to what we may expect in transmission. As already intimated, our policy must be one of selection. The biologist is hard at work, and already has done wonders with plants, apart from mass selection, as he calls it. He has discovered that a certain law is at work which he can lay hold of and actually create and combine with control, for selection. There is evidence to show that

these Mendelian principles, as they are called, are at work in stock breeding as well, but outside of one or two excellent guides they afford us their operation in stock breeding must still remain in the biologist's hands. Much time and great numbers are required, with especially such difficult and complicated characters as milk production includes. Our forte must therefore be intelligent combination and selection.

Before we can interpret a pedigree we must be able to value the animals that appear. Records will help us to do this. Given that we are familiar with the value of the different animals that appear, how shall we estimate their influence from one generation to another. Without going into detail, I wish to draw your attention to a law that has been formulated after a careful study of a large number of cases, including humans, and while like other laws in this work it represents the average, it must necessarily carry us in the long run, and we shall do well to employ it as a guide in our study of pedigree.

Briefly put, this law tells us that the influence of the various generations is:— First, or parents, 50%, each ¼ influence; second, or grandparents, 25%, each 1-16 influence; third, or great grandparents, 12.5%, each 1-64 influence; fourth, or great great grandparents, 6.25%, each 1-256 influence.

The information in this for a breeder of dairy cattle is that, first, all ancestors count, and the further back he can go with good ancestry and without a scrub the better is his pedigree; if any weakness is to be tolerated in a pedigree the more remote it is the better. We may have exceptions, but if an animal has a long line of ancestors uniform throughout we have the best guarantee possible of a favorable result.

THE BEST SCALE OF POINTS FOR AWARDING PRIZES AT DAIRY COW COMPETITIONS.

H. H. Dean, Professor of Dairy Husbandry, Ontario Agricultural College, Guelph.

I can remember, not many years ago, when the Fair management came to the College and said, "Cannot you send us down some dairy cows so that we can make a decent show?" These were not the exact words, but it was to that effect. There were not a sufficient number of dairy cows exhibited at this Fair to make what would be called a representative exhibit. We sent down cows from the College and filled the dairy stable. At this Exhibition the dairy stable is filled, though we had a new addition to the stable put up this year, and it was so popular that I am told the horsemen wanted to get into it with their horses. That will give you some idea of the growth of the exhibit of dairy cattle in connection with this Winter Fair.

You may say to me, "Why make any change?" I would like it understood that I am speaking on my own responsibility in this matter. I have no authority from the Winter Fair Board Management to suggest or make any changes, but I am suggesting some changes entirely on my own account, not that there has been any great kick coming against the present scale of points, but I have had men say to me that they think the present scale of points is somewhat one-sided, and I hope to look into that matter this evening and bring it before you in the very shortest time possible.

I was sorry you did not discuss Professor Barton's paper, because it was a most valuable one. He touched on some things that many scientific men have been grappling with for some time. We are in the dark largely on these questions; it is something hard to fathom, but a number of scientific men are working on it to-day, and we shall no doubt, in the near future, have some data that will help us in improving our dairy stock.

What the French call *laissez faire,* or the "let-alone" policy, is most popular with the masses. A new idea is usually distasteful to most persons. Someone has said, "Mankind in general hates new ideas because it requires thinking in order to understand and accept them." This peculiar trait of humanity has been put into rhyme, which runs as follows:

> "To follow foolish precedent and wink
> With both our eyes is easier than to think."

Men who advocate changes and improvements are usually spoken of as "cranks," "kickers" and "knockers." The fact is, however, that most improvements have resulted from new ideas generated in the brain of a thinker—a "kicker," if you will.

The present is essentially a commercial age, particularly so far the Anglo-Saxon race. Commerce holds sway in, and dictates the policy of, nations who speak the English language. Philosophy and sentiment play but a small part in this "work-a-day," "get-rich-quick" age and generation.

Coming to something more practical, we find the prizes in nearly all classes of live stock and live stock products at our exhibitions awarded, so far as possible, on the basis of their relative market values, or what these are worth in dollars and cents. The judges in certain of the beef, bacon and mutton classes at this Fair have their judgments, passed upon animals on the hoof, "checked up" by the judgment of experts on the carcasses of these same animals. These two are getting closer together each year. In the horse and poultry classes, it is, or ought to be, the relative money values which decide awards as interpreted by the best judges obtainable. What would we think of a judge, say, of bacon hogs, who awarded the prizes largely according to the fat on the hogs? Fat is an important factor, but not all by any means. Market or food values being the basis for practically all other classes produced for human food, why not bring the dairy cow competitions under similar rules? So far as I know, the present scale for awarding prizes in the cow classes is a modification of an English scale of points used by the British Dairy Farmers' Association. Their scale as used during the latter part of the nineteenth century, and at the present time for aught I know, was as follows:—

One point for each pound of milk.
Twenty points for each pound of fat.
Four points for each pound of solids not fat.
One point for each ten days in milk after the first twenty days; limit 200 days.
Ten points are deducted from the total score for each per cent. of fat below three per cent. in the milk.

This scale has been modified from time to time in Ontario, until at present we have for this Fair the following scale:—

Twenty-five points for each pound of fat.
Three points for each pounds of solids not fat.

One point for each ten days in milk after the first thirty days; limit ten points.

The British scale aimed to include, so far as was possible in one scale, the relative market values of all kinds of milk, and also to make some allowance for cows that were advanced in lactation at the time of the test. We have been gradually getting away from the original scale, until at present the pounds of fat in the milk, which is the most variable milk constituent, practically decides the standing of cows in all classes. For the years 1907, 1908 and 1909 the prizes for all dairy breeds and for all classes at the Guelph Winter Fair were awarded in the order of milk-fat production. In the year 1910 all first prizes for all breeds and classes, except Ayrshires, Holsteins and Jerseys forty-eight months and over, were awarded according to milk-fat production, and these exceptions are based on a difference of only about one-tenth of a pound of fat in each case. All other prizes for that year, except a fourth prize in the Holstein cow class, went according to fat in the milk. In 1911 all prizes, except the fourth in the Ayrshire cow (forty-eight months and over) class, the third prize in Ayrshires thirty-six months and under forty-eight months, the fifth prize in the Ayrshire heifer class, and the fourth prize in the Holstein heifer class, were given on the milk-fat basis.

We thus see that four years out of five, at the Guelph Winter Fair, practically all the prizes have gone for milk-fat production. In the great majority of cases, weighing the milk and testing for milk-fat is all that was necessary under the present scale.

Briefly, my proposal is that the four great commercial classes, or uses of milk, be the basis for awarding prizes. These classes are: milk for direct consumption, milk for cream and buttermaking, milk for cheesemaking, and for condensed milk.

In the first case prizes would be awarded according to weight or gallons of milk produced, so long as it is legal milk—3% fat, 12% total solids as defined in the Ontario Milk Act of 1911. (A deduction could be made for milk under legal standard.) In the second class milk-fat would be the basis of awards, in the third class milk-fat and casein, and in the fourth class total solids, or this latter class might be included in the first and thus reduce the number of classes to three, as at least one milk condensery in Ontario buys milk by weight, regardless of test.

One other suggestion: I would recommend doing away with the breed classes as we have them at present. I can see no reason why the Ayrshires should go into a class by themselves, the Holsteins by themselves, the Jerseys and the Shorthorns by themselves, and the grades in still another class. This is too "exclusive" in a test where public money forms part of the prize money. (I venture to say this on my own responsibility, and do not speak with authority.) The public cares little whether an animal is red and white, fawn and white, black and white, or "black and blue." What the public wants to know, and what they have a right to know, so far as public tests can settle such a question, is: what is the best cow for my, or our, particular line of dairying, whether it be milk production for town and city trade, cream and butter production, cheese, or condensed milk?

If the various breed associations wish to donate special prizes, or give money for the regular prizes, as they do now, for doing which they deserve highest commendation, they may do so under the proposed plan, but is it not time to get above petty breed jealousies and adopt a basis of awards more in accord with the spirit of the times in a progressive dairy country?

A Member: Are all the facts that are indicated at the bottom of your chart taken out by separating them with a separator or are some left in the milk?

PROF. DEAN: There is always some of the casein, some of the water and some of the ash taken out with the milk fat. Cream is simply concentrated milk fat; but it does not contain all the milk fat. When you churn that cream, you get the fat in still more concentrated form, and the buttermilk consists of water, casein, sugar and ash that was in the milk. It is only when you get the butter that you eliminate most of these latter.

THINGS TO DO AND THINGS TO LEAVE UNDONE IN HANDLING MILK.

S. F. EDWARDS, PROFESSOR OF BACTERIOLOGY, ONTARIO AGRICULTURAL COLLEGE GUELPH.

With Prof. Dean's permission, I would like to again call your attention to the scale he has, showing the chemical make-up of the milk, and the relation of that chemical make-up to the furnishing of food for bacteria. The great question that we are up against in milk is the flavor and the keeping quality. The flavor and the keeping quality of milk depend almost entirely upon the number and the kinds of bacteria that are present in the milk.

We have some milk in our laboratory that was put into glass flasks in February, 1911, and steamed a few minutes each day for three successive days. We looked at that milk to-day, and it is in just as good and sweet condition as it was the day it was put up a year ago last February. During the summer of 1912 we opened one of the flasks and tasted the milk, and it was perfectly sweet, although, of course, it had a little cooked flavor from the steaming. The steaming of the milk destroyed all the bacteria that were in the milk and the milk will remain perfectly sweet and wholesome as long as it is kept free from any more bacteria getting into it.

As to the content of the milk—the fat, the albumen, the casein, the sugar and the ash—these various substances in the milk are what constitute the food for the bacteria that grow in the milk. Bacteria require the same chemical elements for their food supply that we require for our own bodies. They have to have albumen and water and some fats in order to grow and develop. The bacteria growing in milk are able to work upon the sugar and albumen and the casein and so on, and produce certain chemical changes in these various compounds, and it is these chemical changes that cause the souring or off flavors and putrefaction. The souring is the result of the action of bacteria on the sugar; the putrefaction is the result of the action of bacteria upon the casein and albumen and the protein part of the milk. All the other elements, however, to a certain extent, go towards furnishing food for the bacteria as they develop in the milk.

I have a few slides which I will exhibit which will show you the source of some of the bacteria that commonly get into the milk, and the ways in which they can be avoided, and one or two of the ways in which milk can be handled in order to keep the bacterial action down to as low a point as possible. Clean milk with a good flavor is more saleable than other milk. A man who is producing milk for city consumption can always secure a class of trade that is willing to pay for good milk, and in order to get that good milk the bacterial content must be low. The same question comes in the making of butter and cheese. The buttermaker and the cheesemaker cannot produce as good a quality of cheese or butter from poor milk as he can from a good, clean flavored milk. In order to make cheese from poor

milk, he must pasteurize or have an excessive amount of starter, but at best he cannot produce as good a quality that will sell for as much money as if the cheese were made from clean flavored milk.

Two years ago we were doing some work on the effect of pasteurizing whey from a cheese factory before it went back to the farms, with a view of preventing, if possible, the so-called fruity flavor. At that time we had letters from prominent buyers in Western Ontario stating that the cut in prices on account of this fruity flavor was anywhere from one-quarter to two cents a pound. The producer of the milk is the man who has to bear the loss. You cannot get as high a price for poor flavored cheese as you can for good cheese, and the farmer gets less money for the milk if it is of poor flavor than he would get if all the milk sent to the factory was good clean milk.

I have not touched on the tuberculosis proposition because it is to be taken up at another meeting. The consensus of opinion among the best authorities is that tuberculosis can be transmitted from cattle to the human family, especially to children, from milk that contains tubercular bacteria. Therefore, from that standpoint, it is necessary that milk should be produced in a cleanly condition and from healthy cows.

(At the close of his address Prof. Edwards exhibited on the lantern screen, a number of slides showing some dirty and unhealthy stables, and some of the most cleanly, up-to-date stables in the country, notably several that were supplying milk to the Toronto market, where everything was kept absolutely clean and in a sanitary condition, where the cows were clipped and groomed and properly cared for. Prof. Edwards stated that the price obtained for the milk well repaid for the work done, as one firm received ten cents per quart for milk at the stable and fifteen cents delivered in the city.)

STALLION ENROLMENT IN ONTARIO.

John Bright, Myrtle Station, Chairman Stallion Enrolment Board.

This question of stallion enrolment was discussed by the Horse Breeders' Association in the year 1906, and they asked the Government to do something along the line of stallion inspection for the betterment of the breeding of horses in this Province. The horse breeders finally decided on compulsory inspection and enrolment of all stallions standing for service in this Province. During that session the then Minister of Agriculture, the Hon. Nelson Monteith, asked for a grant to send out a Commission for the purpose of gaining information as to the horse question. A grant was made, and in the fall of 1906 a committee was sent out and they brought in a report on every stallion in the Province. After that inspection and during the Winter Fair of 1908 we had a long discussion in this hall on the proposed Act, in fact we took up the matter clause by clause. That proposed Act, if you will remember, was along the line of compulsory inspection and enrolment of all stallions standing for service. After a good deal of discussion that proposed Act was carried at that meeting by a very large majority. The matter was also discussed at the Eastern Live Stock Meetings at Ottawa with the same result. The matter was then brought before the Government and in the year 1911 a Bill was brought before the Minister of Agriculture and he was asked to have it made law. The Bill was opposed by several members of the House. It had to be cut and

carved down in order to get it passed until we got it down to the present Act. It was still not approved of by all the members and some of them wanted a little more cutting done, and the Horse Breeders decided to withdraw the Bill, because they felt that there was not too much of it left. In the session of 1912 the Bill was passed, and an Enrolment Board has been appointed, and the Act has been administered so far with success. Committees have been appointed to inspect stallions in the different parts of the Province. Some people thought that the Act not being compulsory very few horses would be brought out for inspection, but I want to say to you that twelve hundred horses were brought out by their owners to be inspected, and when they came out over the roads that we had last month, it shows that they feel that this Act is a good thing for the horse breeders of this Province. It shows that the Horse Breeders' Association has been on the right track. Although the inspection has been completed, the certificates have not yet been sent out. The Board will examine the reports of the inspectors, and issue the certificates at an early date. I do not think it is necessary to go over this Act clause by clause as we did before. I would prefer to hear a discussion as to what you think ought to be done. I would like to have a free open discussion as to whether you think this Act can be improved. I do not know that I care to take up more of your time; I would prefer to have an open discussion of the Act.

The Chairman: We want to get information along the line of this Act. The Board is anxious to carry out this Act in the best way and to make any amendments to the Act that you may deem necessary. This legislation was enacted for the whole Province and not for any particular district, and I hope you will feel free to get right up and ask any questions you may desire for the purpose of gaining information as to the working of this Act.

Q.—Do all the horses that stand for service have to pay a fee?

A.—Every horse standing for service in the Province has to be enrolled and pay a fee, but it is not compulsory that the horse shall be inspected.

Q.—What is the advantage?

A.—The Horse Breeders' Association wanted compulsory inspection. We got the best legislation that we could get at the time. The way it benefits now is that the owner of a horse that has been inspected and has been issued a certificate in Form I can advertise that fact to his advantage, and if the horse has not been inspected the fact that he has not been inspected must be stated in all advertisements of every description relating to the horse. You can readily understand that a groom who is travelling a horse that has a certificate in Form I will say something about the fellow who was afraid to have his horse inspected.

Q.—Do you think these grooms will work into the hands of the Enrolment Board.

A.—I have known grooms to say things about the other horse, and this will give them an opportunity to say a little more.

Q.—Would it not be wise to have imported stallions inspected at the port of entry, and if they are not sound they should be turned back and our good money should not be paid for unsound horses.

A.—This Act answers the same purpose, the inspection is made in the fall of the year, this year it was in November. It is up to you to buy a horse that has been inspected.

Q.—The horse is not inspected until after the Canadian buyer has paid for it. They should be inspected at the port of entry.

A.—The Province of Ontario has no right to inspect horses coming into Canada. All we can do is to take care of our own Province, and try and make it better, and we are trying to do that. If you buy a horse now it is up to you to see that he is inspected before you pay for him. Nearly all the importers are having their horses inspected, and you can now see just exactly what you are buying from an importer, and if you buy a horse that has not been passed and he turns out to be unsound it is your own fault.

Q.—Supposing he was not sound and the Board said he was?

A.—If they said he was sound and you said he was not?

Q.—Supposing he was not sound and the Board said he was, would he have to be sound any way?

A.—There are three inspectors sent out, a veterinarian, a light horse man and a heavy horse man, and they give a report of just what they find in connection with the horses they inspect.

Q.—I have been at inspections and they never examined the horses and they could not give a certificate?

A.—Do you say that they did not know what they were doing?

Q.—They never examined the horses for stifles.

THE CHAIRMAN: If a man is not satisfied he can appeal.

Q.—That is the reason I asked that if the Inspectors say a horse is sound is he sound anyway?

THE CHAIRMAN: Every committee of inspection is responsible to the Enrolment Board. That report has to be signed by each of the inspectors, and if it is not a unanimous report there is the privilege of appeal. I want to say that some of the inspectors that I saw could tell you everything that was on every horse they inspected.

Q.—What is the penalty for wrong inspection?

THE CHAIRMAN: The Inspectors are responsible to the Board, and the Board are responsible to the man whose horse is inspected and he has the right to appeal. So long as there are men and horses there will be differences of opinion. It would not be wise for everybody to be of the same opinion. You must allow men who are honest to have a just and honest opinion. I think you will find that the inspectors have been very cautious.

DR. GRENSIDE: This gentleman wants to know whether there is a right to appeal from the report of the inspection committee. There is a clause in the Act which gives the owner of a stallion the right to appeal to the Department of Agriculture, and he has the right to have one man represent him and the Government will appoint another man and the horse will be reinspected.

Q.—When does the time for enrolling run out?

MR. BRIGHT: Not until the Act is repealed.

THE CHAIRMAN: You are supposed to have all stallions enrolled before they stand for service next spring; as I understand it you will be in a position to have your horses enrolled any time between now and spring.

Q.—What benefit will that be?

A.—Perhaps you were not in when I answered that question. We wanted compulsory inspection, but the Government would not grant it and this is the best Act we could get. It is not compulsory inspection, but nearly 1,200 horses came out for inspection in the month of November.

The question is asked what good will it do a man to have his horse inspected. We have heard of grooms going about the country saying things about the other fellow's horse, and we know what he is liable to say now if he is travelling a horse

that has been inspected and the other fellow is travelling a horse that has not been inspected. Won't he say: "That fellow is afraid to have his horse inspected; he would have had him inspected if he was sound."

Q.—What benefit is it to have a horse enrolled?

MR. BRIGHT: The Province says that you must have him enrolled before you can stand him for service. You ask what good that will do? It will stop the scrub horse from travelling in this Province.

Q.—Cannot the scrub horse be enrolled?

MR. BRIGHT: He has got to advertise just what he is on the bill, and then he will go around the country, not as a shining light? A man will not care to advertise that he is travelling a scrub horse.

Q.—The fact is that these men who have scrub horses don't advertise them at all.

A.—They must do so now. He is not allowed to serve his neighbor's mare until he is enrolled.

Q.—He pays his $2 and enrolls his horse; he does not have to get out bills.

MR. BRIGHT: No, but he has to have the certificate of enrolment, and he must show it to the owner of the mare or he is liable to a fine of $100.

Q.—Unless the man who owns the mare asks for that information he does not have to give it.

Q.—A man has a scrub horse, and goes on and does business and he is fined one hundred dollars, can he go on and do business again?

A.—He will be fined $100 every time.

MR. JAMES D. CAMPBELL, Cargill: I know a number of horse owners who did not get notice of the inspection. It was only advertised in one local paper. A number of the horse owners did not take that paper. I have a horse that I will put up against any horse in the country and I did not get notice. I wrote to the secretary of the Board in connection with this, and he said I could have the horse enrolled by sending the certificate, but that will not stop the other fellow from saying that I was afraid to have the horse inspected.

THE CHAIRMAN: If the horsemen will stand behind the Board I want to tell you that in a very short time we will be able to have the Act in good working form, and it will be a great benefit to the horsemen of Ontario.

MR. CAMPBELL: Might it not be satisfactory if a man could have his horse inspected by any two qualified veterinary surgeons of the township?

THE CHAIRMAN: No, that cannot be done.

MR. CAMPBELL: What am I going to do with that horse if the other fellow gets up and says: "You were afraid to have him inspected," and I did not get a chance to have him inspected.

MR. BRIGHT: Everything that is brought out takes some time to advertise. We have been discussing this Act at public meetings, and it has been discussed in the press, and it was advertised in all the agricultural papers last winter. As soon as we decided when the inspection would take place it was advertised in all the agricultural papers, and the secretary wrote to every horseman that he knew or had any information about. I am not surprised at what Mr. Campbell has said. I expected there would be a lot of people who would not have notice. The people have been busy, and they do not always read what is in the papers, and others read it and forget. There are several horsemen in the same position, and I do not yet know what we will do. It is expensive to send a committee out to inspect one horse. I will say that we will do the very best we can to have every horse in the Province inspected if the owner desires it.

MR. CAMPBELL: At the owner's expense?

MR. BRIGHT: No, I won't say that. If we advertised an inspection at a certain place, and the horse owner knew it and he did not bring out his horse, he cannot expect the Province to send a committee to inspect his horse before twelve months. I venture to say there will be a larger number of horses inspected next fall because there will be more time to advertise, and the provisions of the Act will be better understood. The Board are sorry that this gentleman's horse was not inspected. We will do our best to remedy his grievance.

MR. MCVITTY, Muncey Institute: I have two horses that I would like to have inspected and I have a neighbor who would like to have his horse inspected. We both live within a half mile of Muncey Station. We would have had to take these horses 17 miles to have them inspected and at that time their shoes had been removed and they were in pasture. I wrote to the secretary, and he said they would try and do something for us. Is it a fact that the owner of a scrub horse must state that his horse has not been inspected and show the certificate of enrolment?

R. E. THURSTON, Bobcaygeon: We had a horse ready for inspection and the inspectors did not come until the next day after the appointed day, and we did not know anything about it.

MR. BRIGHT: I hope that every gentleman who has any complaint about the carrying out of the Act will write to the Secretary and give him full information on all these points. The Board instructed the Committee to be at a certain point on a certain day. Our desire was that no horse would have to travel more than five miles. We will make a special effort to attend to all these cases.

MR. CAMPBELL: I saw the inspection advertised, but I did not see any advertisement as to the date of the inspection in my district.

MR. D. A. GRAHAM, Lobo: Can you tell me how many stallions there are in the Province?

MR. BRIGHT: I do not remember just for the moment.

MR. GRAHAM: In our section where there are nine stallions only two were inspected, and in another section where there are eleven only one was inspected, and in another section where there are thirteen stallions none were inspected. I think it is just as necessary to have them inspected as enrolled.

A MEMBER: We have eight horses at Tara and the Inspectors went to Allenford where there are no horses at all.

MR. BRIGHT: We had to lay out the routes from the map. We had to strike certain points in order to make it convenient for travelling. With the information we will be able to get from the horse owners this year we will be able to remedy a lot of defects in the first routes.

A MEMBER: If you will make a second inspection before the season starts I do not think any horse will be held back.

A MEMBER: Are the inspectors qualified veterinary surgeons?

MR. BRIGHT: There is one with each committee. We are well aware that it is a big, job, but it is not too big for the horsemen of the Province of Ontario.

THE CHAIRMAN: This is a new Act, and it will take some time to get it into good running order. This Act was passed for the purpose of helping the horse industry of the Province, and it is going to have a very beneficial effect. It is a step in the right direction. The Province of Ontario should be the breeding ground for the rest of the Dominion. The breeders in the West are sending across the Atlantic for their stallions, and I do not think they would be anxious to send so far if they

could get what they wanted in the Province of Ontario. If we are going to maintain our reputation as a breeding centre we must give the Government every assistance in carrying out this Act.

MR. GRAHAM: Has anybody been appointed to see that those who do not enroll their stallions are compelled to do so.

MR. BRIGHT: Inspectors have not been appointed. We expect we will get the information from neighboring horsemen. If we are notified we will investigate.

MR. GRAHAM: It will be something like local option nobody will lay the information.

DR. GRENSIDE: There is no difficulty about having a horse enrolled. As the Chairman has said, this is a new Act and one that we want to make as perfect as possible, and we would like to hear any suggestion that any horseman would like to make. The Legislature will meet in February, and any amendment could be made to the Act that would make it more workable and of more benefit to the horsebreeders of the Province.

The basis of this Act was framed from an Act passed in Victoria, Australia. They have optional inspection there, and they have only one inspector, but there is the right to appeal. It seems to me that a committee of three travelling about the country is rather expensive and cumbersome and I think it would be better to have one man make the inspection with the right to appeal. The original intention of the Act was that conformation was to be considered. It would not be very expensive to have one inspector inspect the horses that have been missed.

MR. MCVITTY: I do not see why an inspector could not be appointed to see that the law is complied with. I should think there would be sufficient funds received from the inspection to pay for such work. If the horses are to be graded into three classes I think there is necessity for three inspectors.

A MEMBER: Would not it be a good thing to make it a criminal offence to breed a mare to a horse that costs less than $15 for service?

MR. BRIGHT: That might be all right for stallion owners.

A MEMBER: Does this Act prohibit a man from breeding his own mares to his own stallion?

MR. BRIGHT: I think the nearest you can get to that is that he must show his certificate to his neighbour before he breeds his horse to his neighbour's mare.

A MEMBER: If he does not enroll his horse can he breed his own mares to that horse?

THE CHAIRMAN: I guess it works out like local option. You can take a bottle of whiskey home and drink it, but you cannot sell it to the other fellow.

A MEMBER: I think every horse should be inspected, that is what will knock out the scrub horse. I think the inspection should be compulsory. There are certain men who will breed right along to a horse that they can get for $2 or $3.

MR. BRIGHT: I have seen a number of bills advertising horses as pure-bred when they were only grades, and poor ones at that.

A MEMBER: I do not think that anything but compulsory inspection will ever do away with the grade stallion.

THE CHAIRMAN: This Act was passed only at the last session of the Legislature. We do not consider that it is perfect. The Board want the assistance of the horsemen of the Province to assist them in carrying out the Act, and in having any amendments made to it that will make it better.

MR. GRAHAM: You should appoint an inspector to see that the law is complied with.

THE CHAIRMAN: I think, perhaps, the Department might appoint a man whose duty it would be to see that the Act was being carried out, and if not he could lay an information.

MR. GRAHAM: I do not think that such an inspector would cost the Department anything; he would secure enough from fines to pay his salary.

A MEMBER: I thought the horse's defects had to be printed on the bill advertising him for service.

MR. BRIGHT: That is stated in the certificate.

A MEMBER: I have a letter from you stating, "You suppose my horse has been inspected." I should think you would know that my horse had been inspected when I paid the $7.

MR. BRIGHT: You must understand that the Board have not had time to go over the reports as yet.

A MEMBER: I think it is a hardship to put the horse owner to the expense of having three men go around the country to inspect. I think that should be cut out.

MR. BRIGHT: The reason three men were appointed was on the recommendation of the Horse Breeders' Association. They were then asking for compulsory inspection.

A MEMBER: I understand that it will be compulsory to have the inspection we are now paying for on the route bill of the horse this coming season?

THE CHAIRMAN: Yes.

MR. MCVITTY: I would like to move the following resolution: "That we are of the opinion that it would be well to have compulsory inspection of all horses standing for service, and that the committee be authorized to grade horses into classes one, two, and three." My reason for adding that is that there are lots of scrub horses that are good, sound horses. The grade of the horse should be stated in the certificate.

MR. D. A. GRAHAM: I have much pleasure in seconding the motion, the idea is a good one.

THE CHAIRMAN: It has been moved that the Committee of Inspection be empowered to grade horses one, two, and three. You are now at liberty to discuss the resolution.

A MEMBER: How would that work out in the different counties? It might be number one horse in one county and number two in another.

THE CHAIRMAN: If a horse is number one in one county he is number one all over the Province. The idea is to have a horse that is perfectly sound and number one in conformation. I think the suggestion is a good one. As the mover has said, there are scrub horses that are sound, and that have no hereditary disease, but they should not be allowed to stand for service.

MR. CAMPBELL: If you grade the horses one, two, and three, won't it give the scrub horse a chance?

THE CHAIRMAN: Certainly, but by the time you get a horse down to grade three he won't have much chance, and will very soon be out of business. We want all number one horses, and that is the proper stand to take in order to get them.

The motion was put to the meeting and carried almost unanimously.

MR. HILL, Queensville: How will you describe a scrub? The Percheron Association has tied the hands of breeders of that class.

COL. MCEWEN: Isn't that a matter for the Percheron Association?

Mr. Hill: Possibly it is; but if they want to protect the breed, the Government has no right to come in and say that a Clydesdale with four crosses can be recorded as a pure-bred.

Col. McEwen: The Association rules in that matter.

Mr. Hill: This Board has been appointed by the Government to do some good. I am heartily in accord with the action of the Government. The only fault I can find is that they have not gone far enough.

RAISING TURKEYS FOR MARKET.

W. J. Bell, Angus.

I am pleased to be here to-day to say a few words on raising turkeys for the market, and I am pleased to see so many ladies, because I think you can count all the men in the Dominion who feed turkeys on your one hand. I think it is the ladies who do the work. I consented to speak to-day in the hope that my twenty-seven years' experience may be of some help to farmers in this Province, and I am of the opinion that it is necessary for some person to say something, because turkeys are not as plentiful as they should be. I was told that in the county of Simcoe, where I live, in the market house at Barrie, the county town, there were only four turkeys offered for the Thanksgiving trade.

On a former occasion I endeavored to argue that turkeys were profitable, but on this occasion I am just going to say that about five or six days before Thanksgiving I read these few lines in the daily paper: "Turkeys are coming in more plentifully, and have dropped to 32 cents per pound." Do I need to say anything more about the profitableness of raising turkeys.

You must bear in mind that turkeys get a large part of their growth from grasshoppers and crickets and other things that injure the crops. In starting to raise turkeys, you must remember that the birds and how they are cared for during the winter is the foundation of success. If you do not start with the proper foundation you are handicapped all the way through the season. The proper way to start would be to use nothing but early-hatched pullets of the previous year or older birds. Never in any case use a late-hatched, sickly or immature bird, but start with the strongest you can get. If I were breeding for the market I do not think I would go to a man who sends out fancy stock for my females, but I would select early-hatched birds from some neighbouring flock that I knew were healthy birds and that weighed from fourteen to fifteen pounds for the females; fifteen is about the right weight. Then I would go to the very best flock I could get for the male bird. I prefer thoroughbred stock, and I would pay a good price for the best male I could get.

A Member: What weight would you have the male?

Mr. Bell: The heaviest I could get. This time of year about twenty-seven or twenty-nine pounds; twenty-nine is about the heaviest young male that is being shown here. I would get a good shaped bird, healthy and vigorous.

There are several varieties of turkeys, but I am not going to take that up to-day. I think one variety is just as hardy as another. The bronze turkeys will ramble a trifle more than the other varieties, and they will grow a trifle larger on the same amount of food; that is the most I can say for them. The number of

birds that I would select in order to raise an average sized flock on a farm would be five. I never hatch a second brood, because I cannot see any profit in it. When people say that turkeys are hard to raise, I think one of the causes is the large number of other fowl that are kept in closed yards with the turkeys. Turkeys cannot stand filth; I do not think you can raise turkeys successfully unless you have an acre for each bird. Fifty birds on fifty acres is enough. I prefer to start with turkeys instead of eggs, as I do not think you can have as much success in raising young turkeys with a common hen, because they leave them at an age when the young turkeys should have a mother hen to lead them around the fields to get insects.

A great many people do not give their turkeys any attention in the winter months, and that is not right. I feed my turkeys oats in the morning and a full feed of good sound fall wheat at night, and I give them small, unsaleable apples for green feed. Another way in which turkeys are neglected in winter time is when there is snow on the ground and they cannot get any grit or gravel. It is necessary to have a bank of gravel that they can go to, and in the absence of that they should be supplied with commercial grit. Turkeys should have access to pure water at all times. If they do not get pure water they will drink out of the pools in the yard at this time of the year. A great many people tell me their turkeys are sick, and I attribute the cause chiefly to their drinking the water from pools in the yard. When the snow leaves the ground in the spring I take away the wheat and give them only a light feed of oats once a day, because they roam the fields and get a large amount of nutriment that is left over from the previous year. If you feed them oats and wheat right along the females will be too fat. The male does not look for feed. He is showing his beauty off all through the spring, and I feed the males oats in the morning and wheat at night in order to keep them in good condition.

The birds should have a range every day out around the yard, and they should never be confined to the buildings. As to night treatment, the last two or three years I have left my turkeys to roost on the fences on the southeast side of the barn, where they are protected from the northwest winds. I would not say that they are not better there than in an open shed. In no case should they be compelled to roost in a hen-house.

A MEMBER: Do not you find that the owls will bother them?

MR. BELL: No, I never had an owl take a turkey, and I shot an owl this fall. He came along after my Leghorn hens. The owls do not bother until late in the fall, and the turkeys are too big for them to attack.

A MEMBER: We had a turkey killed by an owl a year ago.

MR. BELL: I would not say that an owl would not attack a late hatched turkey. Just so sure as you hatch a second brood, the birds strike the fall of the year without the proper constitution to stand disease in the cold weather, and the first thing you know you have a disease in the flock. I am a strong believer in preventing disease instead of curing it. When a turkey gets thoroughly sick with me it is dead. I do not like to keep a sick turkey around the yard. I am no success as a doctor.

A MEMBER: What time in the year do you call "early hatched"?

MR. BELL: I call the last week in May or the first week in June the proper time to hatch turkeys. In Southern Ontario you can easily make it a week earlier if not more. I prepare the nests for the birds early, because some turkey hens will look up a nest sometimes two weeks in advance of laying. Others have different

dispositions, and leave it until laying is almost on them, and in that case you can get them in almost any place. But I think it is necessary to have the nest ready, because the inclination of the turkey is to get away to the fence corners. I place the nests in the shed and fence corners. I use barrels or boxes about three feet in depth, two feet high and a foot and a half or two feet wide. I use the same nests they have laid in for setting, and when the turkey goes back on the nest she does not have to jump on the eggs, but jumps on the straw before she reaches the eggs. If you use a box so small that she has to jump down on the eggs she will break them every time. These boxes or barrels are very easily closed at night by putting a board across the opening. I have a wire fence that runs around the farm buildings and takes in the orchard and probably three acres and goes right around to the end of the house, and there is a little space between the house and the barn where I have a wire gate. I find that the clay gate on exhibition here is exactly the same as the one I use. They have a wire on top instead of a steel bar. If a turkey can see a board on top of the gate she will go over.

A Member: How high is the gate and fence?

Mr. Bell: It is well barred, a fifty-eight inch fence, I think, and gate about fifty inches. You will find that the turkeys will not go over the wire. Of course there are cases where they may possibly go over, but I can keep my turkeys in that yard. I keep about a dozen hens, and they are compelled to stay in that three acres, and their nests are there. In the evening I let them out to take a run and get fresh grass, and they come in at night and the gate is shut in order to keep dogs and other things out.

For nest material I use wheat chaff without the awn. I think the awn irritates the turkey. Sometimes I mix hay or straw with the chaff. I collect the eggs daily and mark them so as to know which hen is producing the best birds. When the eggs are gathered they are taken to a box filled with bran and kept in a moderate temperature where the sun does not hit the building and where there is no stove near. They do not need much heat when they are in the bran.

A Member: How would the cellar do?

Mr. Bell: I do not think it would do, because they would get musty. I set each hen's clutch under themselves, and it takes about two weeks to lay the clutch. I turn the eggs twice or three times a week. I lay them in the bran on their side, not on the end, and I turn them half over twice or three times a week; it would not do to leave them too long on one side. I let the turkey sit two days before I give her the eggs to hatch, because the turkey hen will lay an egg after she starts hatching. I do not say that they do this every time. You must all understand that you may go along with a certain line of treatment, and some year you will get a jar and find it will not work, as it did in other years.

I make the nest rather flat. If you have a hole in the centre the eggs roll together, and the turkey being rather heavier than an ordinary fowl, if the eggs press too hard towards the centre, she will smash one or two. In fact sometimes with the best management they will break an egg. The average setting is about fifteen, but I have set as many as nineteen. Before setting the turkey I give the nest a thorough dusting with insect powder. It is important to do that in order to keep the lice off the young turkeys when they are hatched, and keep the hen free from lice when she is hatching. I allow the turkey to come off the nest whenever she pleases, and sometimes I take her off if she stays on too long. There are some hens that will not come off. My turkeys never get anything other than

grass when they are setting; they just jump off and eat grass. They always look for a dusting place and a drink and eat some grass and go back; they should have easy access to a dusting place and to water.

A MEMBER: Do you put insect powder in the dusting place?

MR. BELL: No, I put it on the nest when I am setting the turkey, and again on the twenty-fifth day of incubation I go out and sprinkle it over the hen and give her a thorough dusting as quickly as I can, because at that stage she is more excitable than at any other time; I just give her a good dusting over the back and around the sides, and I get away as quickly as possible. Dusting at that time with fresh insect powder will start your young birds free from lice, and I have never had to do anything to keep lice off, except once when the weather was continually wet and it was hard to keep them off.

For fear the turkey breaks any of the eggs, it is a good plan to go to the nest when she is off and see if any are broken. If so, remove the broken egg and wash the balance of the eggs and make the nest clean for the turkey when she returns. I wash the eggs off with luke-warm water, and dry them as soon as I can put them back.

A MEMBER: I thought the eggs should not be wet after they start to hatch?

MR. BELL: I would rather not wet them, but it is better to wash them than to have the hen come back to a filthy nest.

PREPARING FOR THE YOUNG BIRDS.—I put my turkey hens in what you call a small colony "A"-shaped coop without a bottom. It is roughly made, boarded up on the sides, and is three and a half feet wide, and the back is boarded up solid and slatted on the front with slats about four inches apart, so that the young birds can run in and out, and I always give this coop a thorough coating of whitewash. Some people put the hen in a corner of the barn, or tie the turkey up by the leg and keep the young turkeys in with her until they are able to jump over a foot board, when they give the turkey its freedom, and when night comes they drive them into a small building that cannot be kept properly clean. After the birds get to be three or four weeks old they need an abundance of fresh air, and I always let the old birds out when the young birds are four weeks old. When I remove the coop each day you would be surprised to see the filth that has been made by twelve or fourteen young birds, and you can imagine what it would be like if they were left there all the time. The hen and her brood should never be confined in a small building, especially after they are three weeks old. I place the coops on short grass and keep them away from my chickens. I keep my chickens in the yard where the breeding turkeys are kept until the turkeys have their hatch, and after they have their hatch I keep them on the north side of the fence.

You need to be very careful in getting the turkeys off the nest. I run my hand under them and pick out the young very quickly. If the weather is very cold when I take them away from the nest, I put them in a large dry-goods box. I place it on the south side of the house for the first few days. It is very seldom I have to do that, but odd years, we will have an equinoctial storm, when I carry them over in one of these large boxes.

A MEMBER: Did you ever try to raise them in incubators?

MR. BELL: No, I have not, but Prof. Graham tells me he has done it successfully. I have heard that incubators will hatch the eggs; but it is hard to raise the young birds by artificial means. For a dusting place, I dig a hole in the grass and place some dusting material in it. I make this hole just about the size of a soup bowl and put a little wood ash and some dry dust in it, and you

will be surprised to see how soon the young birds will be in the hole dusting themselves. That is my remedy for lice, and I have never had any trouble but once with lice. I move the coop in which the turkey is placed every day on to fresh grass; I move it about noon when the ground has been warmed up by the sun.

A Member: Do you keep the old bird in that coop?

Mr. Bell: Yes, and the little ones have free access in and out until they are about four weeks of age. When they go out first they will not wander very far; but when the four weeks are about half over, they will run over about half an acre. The cows are usually milked in this yard and they keep the grass fairly short. I find sheep are splendid for keeping it short, because they are safer among the young birds, but you will not lose many by the cows.

A great many people think that the food is the most important part. In fact, they do not pay much attention to the young turkeys, but think if they get a certain kind of food they can carry the turkeys through. You cannot build a house on sand and have it stay up, and you must bring your turkeys up in a proper condition or you cannot raise them no matter what food you give them. I do not think my feed is the only food that will raise turkeys, but I feed them as follows: When I bring them from the nest, I feed them stale bread soaked in skimmed milk, and I scatter it on the bottom of the dry-goods box if they are in it. They do not eat much at first. You would almost think they were not going to eat anything; they will just pick a little, but I feed them five times a day, and at night I give them a little of that bread and milk. The second day they will pick more freely and I add a little shorts— a medium grade of shorts. I start adding the shorts on the second day and on the third day, I keep out the bread altogether and give them shorts mixed with milk. I mix it real damp and I feed them entirely off my hands. That may seem strange, but you do not have to stay more than three minutes with each coop. They are usually hungry and they pick for a little while quite freely, but the first thing you know they are out looking for a fly, and I go away as soon as the second or third last turkey has left. I go around to each coop and probably spend less than half an hour on the six coops and I do that five times a day. At the ten o'clock feed, I cut up onion tops with the scissors and mix about one-fifth of the bulk of shorts with the onion tops, and in the four o'clock feed, I give them dandelions cut up in the same way.

If they are doing really well at the end of four weeks, I let the hen out of the coop and induce them to roost on the fences or trees. I give them both water and milk to drink and I take some of the saucers out of the house for them to drink out of, and so far neither my wife nor myself have had that dread disease black head, but I see strong evidence of grey head coming. I use the saucers for a week or ten days, and then I give them larger dishes. You should never let them have dirt in any shape or form, and the drinking vessel should be washed out carefully at each feeding time, and I give them all the milk they will drink all the year round. After the four weeks I feed them only shorts in the morning, and when they come back at night I start to feed them fall wheat. That is their treatmennt the summer through until this time of the year and when it gets cold, I give them oats instead of shorts in the morning.

A Member: Is there anything in the theory that if you let young turkeys roost too soon, it makes them have flat or crooked breastbones?

Mr. Bell: I do not think there is anything in it. I have always made them roost at that age, and some years I will have a number that will have

crooked breasts. I did not have a crooked breasted turkey last year, and this year I had three or four, and they all went to roost at the same age, and I used the same breeding stock.

Q.—Is it best to raise them from young or old birds?

A.—I have found very little difference; I use young or old hens.

Q.—Don't you think the old birds would be the strongest?

A.—No, I have not been able to detect any difference. Last year was an exceptionally favorable year, and I bred from a young male, and I believe the young birds were stronger than this year, and I used the same male and practically the same females. When you put the birds out in the coop, it is a good plan to put up a scare-crow. I nail the scare-crow to a plank and move it around a little so that the crows and hawks will not get too familiar with it. I do not give my young birds pepper or anything of that kind. I think if you bring them up properly, there will be no necessity for using drugs.

There is a lot of talk about black head in turkeys. I know a great many people who have turkeys and who say they die from black head, but they did not examine the liver to see whether it is black head or not. I do not think there is any other way of diagnosing black head except from the liver. I have never had a case of black head in my flock. Black head is a very bad disease, but there is another disease called "swelled head" and it is just exactly like the swelled head in the human being, and the birds will live a long time with it and do well. Whenever I see any of my birds with swelled head, I take them out of the flock until the swelling goes down, and if it does not go down in two days, I have a hole dug and take the bird's head off and drop its body in the hole.

Q.—You think there is no cure for it?

A.—No, I do not think there is.

Q.—I have cured several birds?

A.—I have known birds to get better when they were never treated at all. Some birds have a strong constitution, but when you are treating a bird and keeping it around with the rest of the flock, you are taking a great chance of having the other birds get the disease.

Q.—I have not lost one yet?

A.—Probably it would be well for you to tell the audience how you cure it.

A Member: I lance it.

Mr. Bell: If I had black head in my flock, I would give up raising turkeys altogether for two or three years at the very least, and then I think I would be able to start over again and to greater advantage than by trying to cure the disease. One of the best ways of knowing whether turkeys are healthy or not is to watch the droppings; learn to know when they are healthy. I kill the turkeys by cutting them in the roof of the mouth.

Q.—Do you let them out on the grass when the dew is on it?

A.—Yes, I let them out. If it is cold and wet, it is fatal to turkeys, but if it is warm and wet, it does not hurt them at all. I open the coops about seven or eight, and let them run out. The more range they have the better I like it, as long as the foxes do not get them.

POULTRY DEMONSTRATION.

Miss Mary Yates, Port Credit.

(1) "Killing, Plucking, and Shaping Chickens for Market."
(2) "Boning Chicken and Method of Cooking."

In all probability there are very few Canadian products put on the market as badly as table poultry. In the killing and the preparation of a bird for the market it is essential that the blood should be removed from the body of an animal in order to make it fit for human food, and a chicken may be killed either by dislocating the neck, and allowing the blood to drain from the body of the bird into the opening that is made by stretching the neck after dislocation, or by stabbing the vein of the neck and removing the blood entirely. Families like to have poultry on the table once a week at least, and it is quite difficult to get birds that have been properly killed and dressed. As an example of typical conditions I may say that this summer we have been in the unfortunate position of having none of our own poultry, and have had to buy. I will not give the name of the place, but it is in the district between Toronto and Hamilton, and where the people are considered pretty good farmers, but all that were available were the most dreadful looking specimens of table poultry that it is possible for any housewife to have to cook. I cannot speak too strongly about it, for the birds were spoiled in the preparation, not in the raising.

For commercial purposes, there is no doubt that the blood should be removed entirely from the carcass, and it can be done in quite a simple way with proper conveniences; but if I were to kill this bird in that way without them, I am quite sure that in a mixed audience we would have some of the ladies fainting, so will demonstrate killing by dislocation of the neck. Hold the bird firmly (in your left hand with the wing tips and the tops of the tail feathers held firmly). You will notice that the bird is back uppermost, and I stand firmly on my left foot with the right knee slightly advanced. Take the head of the bird between the first and second fingers of the right hand and then pull. If there is a little fluttering afterwards, I must beg of you to believe me when I tell you the bird is dead, and that it is merely the reflex action of the nerves on the muscles that causes the movement. Snap the head back and down at the same time and begin to pluck at once, removing the feathers right down the back and along the neck, then take out the wing quills, keeping them separate from the other. Get these out while the bird is warm, because they are apt to set in very firmly. Do not mix the heavy feathers with the downy ones if you intend to sell them or to use them for cushions. Get on with your work as fast as you can and keep the head down; the faster you do it, the easier the feathers will come out. Never scald your birds either for private or commercial trade, because you ruin the keeping qualities of the carcass and spoil its appearance, impair the flavor and quality of the flesh, make the bird very much more difficult to cook perfectly, and make it impossible to present a good appearance on the dish. When taking the feathers from the breast, it is well to pull them more carefully; those who sell poultry should know that what pleases the eye will sell the best, and it is very easy to spoil good birds by carelessness. Before being killed, the bird should fast for twenty-four hours. Shape while warm for the reasons that it helps the keeping qualities and gives a

good appearance. It is not very difficult to make shaping boards at home and it pays to do so, if there are many birds to kill and dress in the course of a year. Strings can be used to good purpose. Make a slip knot on the feet of the bird and tie the feet down behind the wings as firmly as you can. Then tie the hocks down to the tail (cross the strings and tie them firmly behind the tail). Tie as tightly as possible so that the poisonous gases may be forced out of the bird's body during cooling. Cooling under pressure insures better keeping qualities and finer flavour of flesh. Some poultrymen will know that there are two veins or arteries running up the neck of the bird, and that there is a branch from one to the other just at the base of the skull. The knife should be inserted at this point; then, where one cut is sufficient to allow free drainage of the blood. An ordinary pocket knife is generally used, though the one that I have in my hand is rather a fancy affair. It was made for me by a poultryman who has this method very much at heart, and I want to show you how easy it would be to prepare a bird in a commercial way. You will notice the sharp cutting surface is just at the end of the knife. The knife is introduced through the mouth, and one cut is sufficient, and then the knife is reversed and introduced into the brain through the slit in the roof of the bird's mouth and all is over. For amateur work a draining bag is very useful for the preparation of ducks or geese. The body is inserted into the bag and the neck coming out through the hole, the bag may then be hung up and the bird stabbed through the roof of the mouth, so all the distressing fluttering is avoided. The birds can be left hanging up until you are ready to dress them. A glance shows how it simplifies the work.

Boning.—I will now give you a demonstration of boning a chicken for the table. To my mind there is no more over-rated dish than boned-chicken, but at Christmas and other festival times it is desirable, and certainly it is easy to carve. The first thing to do is to select a bird with a whole skin that has not been broken or barked in any way and also one that has not been frozen. First singe it and then draw the sinews from the drum-sticks and cut off the feet. Then make an opening right down the back of the bird with a sharp knife. An ordinary French cook's knife and a little pointed scraping knife are the tools required. Cut right down the back of the bird and begin at the neck by scraping until you free what is called the shoulder blade, and then keep on until you come to the place where the wing bone is attached to the body. Cut through the ligament and scrape and scrape until you free it so that it will come right out; go on down the side of the bird, scraping (and you will find it will all come quite free) until you come to the leg bone. Cut that out in the same way as the wing was freed, and gradually turn the flesh inside out, then start on the other side and scrape everything free exactly in the same way, and then start with the merry-thought and push the flesh away from the breast bone, using your fingers, because it is important not to crack or break the outer skin in any way. Proceed carefully, right down the breast side of the bird and the whole carcass will come right away from the flesh. The bones and giblets may be used for gravy or soup.

The flesh should then be wiped off carefully with a cloth, and pepper and salt sprinkled upon it and the stuffing spread. Sew it up the back and truss it into a shape for roasting. Then set it in Aspic Jelly in a square or oblong tin, and when it is turned out you can cut it in slices and one bird will serve a great number of people. It will take twenty minutes for every pound, to cook it well, then allow twenty minutes over. You have heard of the very good mixture for putting inside the bird, and you will see why I say boned-chicken is an over-rated

dish; there is, in fact, very little chicken in it. Take a pound and a half of veal (or if you care to do so, you can take another chicken) and chop it up, a cup and a half of stale bread crumbs,

1½ teaspoonful of salt,
¼ teaspoonful of pepper,
¼ teaspoonful of celery salt,
½ teaspoonful of mixed herbs,
½ tablespoonful onion pulp,
1½ tablespoonful chopped parsley,
3 tablespoonfuls of butter,
2 eggs,

with sufficient cream to mix to a stiff consistency. Mix all up thoroughly and put inside and sew up the bird. It is said you must never poach anything but eggs, and I do not want to poach on the time of the next speaker, unless you have any questions.

Q.—I would like Miss Yates to draw the sinews of that bird.

Miss Yates: We will suppose the bird is trussed. Have the breast toward you, and then make a slit down the leg and introduce your trussing needle to pick up the sinews, and I have found it helps to twist that needle several times around to give you a better purchase on the sinews, and then pull.

Q.—Do you draw the large sinews?

Miss Yates: Yes, with a young bird they will come out easily.

EUROPEAN POULTRY PRACTICES WHICH MIGHT BE APPLIED TO THE POULTRY INDUSTRY OF CANADA.

W. R. Graham, Professor of Poultry Husbandry, Ontario Agricultural College, Guelph.

I had the good fortune this year to visit Denmark and other countries across the water. You have heard a great deal about the Danish products, and they are probably the highest class food products that are put on the English market; the Irish are endeavoring to imitate the Danish system. The success of the Danish system simply rests on one or two things: First, because they are able to supply a large quantity of food products of a uniform quality and of a high quality. There are certain difficulties in the way of handling poultry products. The greatest difficulty is with eggs. The farmers say they are not to blame, the packers say they are not to blame, and the grocery man says he is not to blame. I do not know who is to blame exactly. I think probably they are all a little to blame. A great deal of the blame is due to the lack of education.

Some people believe that the shell of the egg absolutely protects the contents, but an egg will absorb flavours very rapidly. If you do not believe so, take a new laid egg and bury it in a basket of onions for a few hours and you will get a nice onion flavor. I was talking to a gentleman who supplied high class eggs in the United States, and the producers were in the habit of using medicated nest eggs to keep the lice from the hens. These medicated eggs have an odor not unlike camphor. The result of the use of such eggs was that many of the new laids had a very objectionable flavor. The same thing is true of the food that you give the poultry. You can readily understand that one should feed good wholesome food, and, moreover, have clean nests.

Eggs are kept too long from the time they are laid until they reach the consumer. It is a lucky egg that reaches the consumer before it is thirty days of age. The ordinary farmer keeps them about a week and then they are taken to the grocer and he keeps them another week, and then they are taken to the packing house and then to the city grocer, commonly about four weeks expire before they reach the consumer.

We are not producing a sufficient quantity of eggs in the Dominion of Canada to feed our own people, and the only remedy I see available is co-operation in the gathering of the eggs and in selling the eggs. That in the end will mean higher prices to the producer, and possibly a little lower price to the consumer, and he will be able to get a better product. A great many people have said that it is impossible to conduct the co-operative scheme in Ontario, because it is going to cost too much to collect the eggs. In Denmark, there is only about an average of 1¼ chickens per acre; that is one hundred acres will not have on it more than 125 fowls on the average, and in Great Britain there is only one bird per acre. In Ontario there is about ¾ of a bird per acre. In the older countries the holdings are much smaller; for instance, a man in Denmark will make a living on a ten acre farm, and some of these farms are what we would call sand heaps, but at the same time it costs the man over there $50 an acre. If we had the same land here we could not give it away. In this country a farmer who has three hundred acres very seldom has more than 100 hens. I am not sure that it will cost much more to collect the eggs here than it does in Europe, with the exception that the man's time and the horse's time is worth more here than there.

It is remarkable that you can buy some of our food products in London, England, more cheaply than you can buy them from the grocery store in this country. One of the reasons for that is probably due to the lower cost of delivery. It costs less to feed the horse and take care of him, and they can hire a man cheaper. By co-operation we will be able to cut out two of the middle men.

Poultry are kept in the Old Country under better conditions than they are here. In most instances, you will find that the houses are kept much cleaner; that is absolutely true of Denmark. The manure is so valuable there that they have to take care of it. In Denmark they have an educational scheme, a breeding scheme, and a marketing scheme. We have the same educational scheme here in some respects. They have what is similar to our County Representatives, except that they go a little farther and have a poultry specialist, and a dairy specialist, and a beef animal specialist, and a general agricultural specialist, and in some cases a small-holding specialist, and they have covered the country inch by inch. But the educational scheme, no matter how good, will fall down unless you have a marketing scheme to follow it up. In addition to all these, they have a breeding scheme; that is to say, in practically every section there is a breeding station and eggs are sold from these breeding stations at 50 cents a dozen. These breeding stations are all inspected by the Government. One of the first things that impresses one in Denmark is that they are a pure-bred race of people as compared with what you would see in London, England, or in Montreal or in Toronto. All the people in Denmark look alike. For instance, all the children have white hair and blue eyes, but on our streets you can see what you might call quite a conglomeration of mongrels.

Nearly all the chickens in Denmark show considerable Leghorn blood. Our fanciers might say they could not see any chickens worth while.

They are not bred true to color, but they are bred for egg production. Exports from Denmark have doubled or tripled in the last few years.

A MEMBER: Do the farmers in Denmark adhere closely to the co-operative principles, or do they depart from them as they do in this country?

PROF. GRAHAM: So far as I could see and learn they are united.

A MEMBER: Mr. Bell said you had some experience in raising turkeys in incubators?

PROF. GRAHAM: That experiment has only been carried on for one year, but it looks as if it were feasible. I think it is much easier to take care of the turkeys in the brooder than under the mother hen, and you have not any trouble with lice. I am quite free to admit that the scheme might fall down, and I think it would be a failure on clay ground.

THE SHEEP AND MUTTON SUPPLY IN CANADA.

H. S. ARKELL, M.A., B.S.A., DEPARTMENT OF AGRICULTURE, OTTAWA.

The subject that has been given me to address you upon this morning is the sheep and mutton supply of Canada, and it gives me much pleasure to appear before an audience of sheep-breeders of the Province of Ontario. Necessarily we must consider statistics of sheep population, of exports and imports, and of market and trade returns in order to obtain any understanding of the relation existing between supply and demand. I will ask your attention, therefore, to a comparison of the returns for the present year as compared with returns for former years. You will understand that some such comparison is necessary if we are to arrive at any just estimate of the situation in this country at the present time.

First, let me say a word with regard to the sheep population in Canada. According to the latest returns—the census returns are not yet available—there are at present about 2,360,000 odd head of sheep in the country. Compare this with the census returns for former years:

In 1901 there were 2,510,000.	In 1881 there were 3,048,000.
In 1891 there were 2,563,000.	In 1871 there were 3,155,000.

That is to say, there are in Canada to-day about 600,000 fewer sheep than there were 40 years ago.

Now we might look at the numbers of sheep in the different Provinces and compare the number at present with the returns for former years:

Prince Edward Island.		*Nova Scotia.*	
In 1881	166,000	In 1912	343,000
In 1912	104,000	In 1871	398,000
New Brunswick.		*Quebec.*	
In 1912	179,000	In 1912	519,000
In 1871	234,000	In 1871	1,007,000

Note that there are in the Province of Quebec scarcely more than half the number of sheep than there were forty years ago. Practically the same thing may be said of Ontario.

Ontario.

In 1912 888,000
In 1871 1,515,000

The returns for the Western Provinces will make a little better showing, as there has been a gradual increase during the past 40 years, the provinces being, at the beginning of that period, largely undeveloped, and having very few sheep in them.

Manitoba.

In 1912 32,000

Alberta.

In 1912 181,000

Saskatchewan.

In 1912 111,000

British Columbia.

Between 30,000 and 40,000.

There are fewer sheep at present in the whole of the Dominion of Canada than there were in the Provinces of Ontario and Quebec alone 40 years ago.

Turning from the sheep population to a consideration of the exports and imports we shall get another comparison of the connection between supply and demand at the present time. Going back to 1896, which will be a representative date, there were shipped from Canada in that year 391,000 head. Since that time there has been a continual decrease in the number of sheep which have been exported from the Dominion, as will be indicated by the following figures:

In 1906 there were exported 244,000 head.
In 1909 there were exported 118,000 head.
In 1911 there were exported 46,000 head.
In 1912 there were exported 21,000 head,

while in the six months from March 31st to September 30th there have been exported not more than 2,774. That is to say, within about 16 years our exports have dwindled from 391,000 to 2,774.

It will be interesting now to compare the exports with the imports. Up to 1910 Canada, as regards sheep and mutton, was essentially an exporting country. It has now become an importing country. The following figures are significant:

In 1910 there were imported 35,000 head, chiefly from United States.
In 1911 there were imported 68,000 head.
For the fiscal year 1912 there were imported 192,000 head.
For the six months from March to September, 1912, there were imported 154,000.

To give an idea of how these sheep were distributed, I may say that during these seven months 44,000 were imported into British Columbia, 62,000 into Alberta, 24,000 into Saskatchewan, 20,000 into Manitoba, and 2,000 into Ontario. These importations consisted largely of range sheep from the United States.

Another comparison might be made with regard to the importation of meat: In 1896 about 150,000 lbs. of mutton were exported from Canada. From that amount the exportation has dwindled down to 21,000 lbs. during the past six months. Contrast that with the importations since 1910:

In 1910 there was imported 2,094,000 lbs. of mutton.

In 1911 there was imported 2,708,000 lbs. of mutton.

In 1912 to March 31st there was imported 4,041,000 lbs. of mutton, while for the six months ending September 31st, 1912, there was imported 2,580,000 lbs. of lamb and mutton, chiefly for use in the Western Provinces. The importation was made for the most part from the United States and Australia. These figures will serve to illustrate the fact that Canada has ceased to be an exporting country and is at the present time importing a considerable amount of both live and dead mutton for use upon the larger markets in the Western part of the country.

I may give you now one or two other statements as regards market returns to illustrate the quantity of mutton which is being handled at the larger markets. During the calendar year 1911 about 227,000 sheep were received at the Toronto market. During the ten months ending October 31st the amount did not exceed 150,000. In Montreal, in 1911, there were handled 117,000 odd head, while for the ten months of 1912, ending October 31st, there were received not more than 102,000 head.

A very interesting comparison might be made as regards the amount of mutton entering the Winnipeg market. In 1911 some 43,000 passed through the market, while for the first ten months in 1912 the receipts totalled something like 39,000 head. It is interesting to note that of these 39,000 not more than 1,000 head were Canadian bred, all the others having been imported from the United States.

We may return now to the markets for sheep and lambs in Canada. It would be rather tedious to go into details in this regard, and I will, therefore, simply confine this statement to an estimate of the demand for and consumption of sheep and mutton in the Dominion at the present time. It can be said, in a general way, that there has been a decided change of sentiment on the part of the consumer in favor of the use of mutton and lamb, perhaps I should say chiefly of lamb, during the last few years. There has, of late, been a distinct shortage of beef and, with the increasing price of beef in the butcher stalls, the public has shown that it is willing to turn to the use of the smaller meats when these can be obtained at relatively cheaper prices. Not only is this the case, but there has been a popular tendency to ask for lamb in our best butcher shops throughout the winter months, a feature of the trade which did not exist some few years ago. In the light of the fact, therefore, that production has not kept pace with the increase in population, and that, as the result of a growing taste for this meat, prices have stiffened in the past few years, there is room for a great increase in production.

Prices have been maintained in Ontario and Quebec notwithstanding the fact that there have been heavy marketings of sheep stock in the United States. In the Maritime Provinces competition has been keen among buyers. A few years ago it was difficult to sell lamb at more than from three to four cents a pound. This year those who are producing lamb have been encouraged by the much higher prices which butchers and dealers are willing to pay. In the

West prices are scarcely equalled by those in the East, but at the same time they have been steady and strong. The markets have been able to handle without difficulty the large importations of live and dead mutton that were made from the United States and Australia. These importations have become a feature of the trade, as is illustrated by the fact that one of the large produce firms claims that it has become absolutely necessary to import these supplies, and that it has been to their advantage to do so.

There are one or two other features that I might speak of with regard to the inter-provincial trade. It is rather difficult to get accurate statistics of the movement of the supply, but we have had access to information which may serve to illustrate, to a certain extent, the trend of trade in mutton and lamb during the past year. The Maritime Provinces are practically self-sustaining. The trend of trade has not been from West to East but rather from East to West, there being shipped from St. John and Sussex, New Brunswick, some few carloads of frozen mutton to Port Arthur and to the markets in the West. It may be interesting to note, in passing, that something over one million pounds of meat is shipped per month from Ontario and Quebec to the Maritime Provinces for consumption there. Most of this consists of beef and pork or the by-products of these. Up to November 22nd there has gone from the Maritime Provinces to Port Arthur about 85,000 lbs. of frozen mutton and lamb.

There is some little interchange between Ontario and Quebec—from Quebec to Ontario at Ottawa and from Ontario to Quebec at Montreal. There are also some small shipments made from Quebec to the West. While formerly a good deal of lamb or mutton was shipped to the Western Provinces that trade is now becoming of inconsiderable dimensions. It is expected that about 16,000 carcasses will go forward from Ontario to the West during the present season. I would point out again that the West has come to depend upon its importation of live mutton from the United States and Australia. Unless there is considerable expansion in the production of mutton in Canada, this will become a permanent feature of the Western trade. In conversation with people who are familiar with conditions there, it was made clear to me that the large packing firms had prepared themselves to import from year to year considerable quantities of live and dead mutton.

We may turn now to a brief statement of the conditions pertaining to supply and demand. I shall pass briefly over the eastern portion of the Dominion. In the Maritime Provinces there has been during the past 40 years, a serious decline in the number of sheep produced, notwithstanding the fact that there is probably no part of the Dominion better adapted to the production of mutton. There was a few years ago a large exportation from these Provinces to the United States and to Europe, but this has dwindled to such an extent that there is practically nothing going forward in these directions at the present time. There was also at one time a satisfactory trade between the Maritime Provinces and the West, but this has dwindled to a mere pittance. The Maritime Provinces have a wonderful opportunity to build up a great sheep trade if they will but make use of their own resources. In this connection I might refer to the town of Sydney, which is importing about half a million pounds of meat per month for use by those engaged in the mining and manufacturing industries of that place. A similar growth in mining and manufacturing is to be found in various other centres in the Maritime Provinces, and as a result of this they have developed a steady and strong local trade. Not only is this the case, but they may with us easily find themselves able to foster a strong

trade with the West. One cannot visit these provinces and drive out over the rolling country side without being impressed with the advantages they possess toward making extensive sheep production both practicable and profitable.

As regards Quebec, the feature that most impresses one is that production has fallen off and that the quality of the product has also deteriorated to a considerable extent. Quebec needs sheep both in the rolling, grazing districts to the north of the St. Lawrence River and on the more level agricultural portions of the province, south and north of the river, where weeds at the present time are becoming a menace to agriculture. The market in Quebec is expanding every day.

Ontario I will pass over with but a brief mention, as you are all familiar with the conditions in this province. I would, however, remind you that there were exported from Toronto, in 1907, to Buffalo, 130,817 sheep for consumption in that market, while for the fiscal year ending March 31st, 1912, there were imported into the Toronto market something like 21,000 head. This will illustrate just where Ontario now stands as regards the relation of supply and demand.

With reference to the Western country, I would like to point out that it seems a reflection upon our enterprise that we have allowed the imports as regards mutton and lamb to so increase during the past few years. Western Canada is not even self-sustaining. In going over that country one cannot but be impressed with the great increase in urban population; witness the growth in the cities of Winnipeg, Regina, Saskatoon, Edmonton, and Calgary, not to speak of the thriving towns in these districts. The meat supply is becoming a question of no mean importance in Western Canada. Speaking with butchers this year, I learned that they were finding it exceedingly difficult to get enough meat for their local demands. One can hardly credit the amount of meat that is used in Vancouver and Victoria; while the development work in the North and the Yukon requires the importation of very large supplies. Lamb is becoming particularly popular in the larger cities, especially in Vancouver and Victoria, where many English people are finding homes.

What about the sources of supply? The ranches are not now sending to the market anything like the quantity that might be expected. The ranchers are finding it difficult to get permanent leases, and as homesteaders are encroaching on what they have considered their own peculiar territory, they have not been able to make provision for increasing their flocks. For the same cause also they have failed to make proper provision for keeping their flocks during the winter months and losses have been met with as a result. They do not look to the future with any degree of enthusiasm.

On the other hand, however, there are attractive possibilities for sheep production on the grain farms in the West. I saw these illustrated last summer in such a way that I have no hesitation in making the statement that there are great opportunities for an expansion of the sheep industry in Western Canada. One man I met has made one thousand dollars profit out of one hundred ewes, and that did not constitute all he was obtaining from the use of the flock. It seems to me that one of the best movements that can be entered upon during the next few years in encouraging the sheep industry in Canada lies in the direction of increasing the numbers produced on the grain farms of the three Prairie Provinces. Big grazing grounds may be developed, particularly in the irrigated portions of Alberta, and also on the delta land of the Fraser River Valley, where alfalfa can be produced, and where sheep can be finished for market in the best possible condition.

In conclusion, I want to say that it appears to me that the decline in the sheep industry is not due, solely, to the fact, as it is claimed, that sheep are hard on pastures, to losses by dogs, and to the difficulty of fencing. The decline has been due to economic reasons, just as for economic reasons there has been a falling off in the supply of beef. I would like to say that any movement which has for its object an increase of sheep production in this country will have to face the problem of improving our market system both as regards wool and mutton. A parish priest, by holding his people together and by helping them to co-operate in selling their product, was able to increase the price they received by something like one and three-quarter cents per pound for the product sold from that district as compared with the prices received from other districts. The question of transportation must also be considered, it being of prime importance in the Western Provinces. Canada has possibilities in connection with the production of sheep that are not yet realized, and we shall do well to make, as we may do, sheep breeding a great commercial asset in the development of Canadian Agriculture.

DISCUSSION,

Led by Lt.-Col. D. McCrae, Guelph:

I do not quite agree with our friend who has just spoken; I generally try to differ with anybody who speaks before me anyway. I am not anxious to build up a big export trade in sheep or in sheep products, but I want to grow enough sheep in Canada to feed the Canadian people. Mr. Arkell has just given us a great many returns showing that we are not doing that to-day. We have one of the very best possible countries for sheep raising. We are not taking advantage of our opportunities in sheep breeding. We are not beginning to do it. It is true that there are some disadvantages, and perhaps one of the greatest is the trouble with dogs. I will speak especially of the West, because Mr. McEwen and Mr. Harding are to speak on Ontario and Eastern Canada. In my travels throughout the West this year I found that the greatest detriment to sheep breeding that they have was the dog. I did expect that in British Columbia the wild animals would give trouble, and I was on a farm where just that morning a mountain lion had carried off a lamb. It was a bad thing for the lion, as he was shot. I saw him as they were taking the carcass in to get the bounty. The sheep men told me there that dogs killed ten times as many sheep as the wild animals in British Columbia.

I went on a farm to try to get the owner, Mr. Ferguson, to raise more sheep, and he said: "I just had forty-five killed by dogs, and I am going out of them." After dogs have been among your sheep, the sooner you get them to the market the better. I never found a flock to do well that had been worried by dogs.

We need more mutton in Canada. It is the best food we have. It is healthier and better than beef or pork for children, and more of it should be eaten. We do not raise as many sheep as we should. I come from a mutton-eating district. It was a rare thing to see a pig in the section of the country my forefathers came from. Mutton was the meat, and I have seen twenty mutton hams hanging up drying, and mutton ham was one of my tit-bits when I was a boy. For many years I have been in the habit of buying the fattest carcasses I could purchase on the market, and I generally get it pretty cheap. I do not know anything that I like better. When it is corned, we cook it and eat it cold. I don't care whether it is six inches thick with fat, it is a good thing to eat on a cold morning. We would be very much better if we used more mutton.

In my perambulations in British Columbia endeavoring to spread sheep breeding —I am glad to say that our sheep breeders did something to help on the good work —I found that every man who had kept careful account of what his sheep cost him had made a good profit, with only two exceptions. One man who had kept an accurate account of everything he paid out and the receipts from the wool and the mutton, told me that he had made one hundred per cent. per annum from his sheep. Do you want anything better than that? Think of it! Everybody cannot do that; this man understood his business and looked carefully after it.

It is all very well to talk about exporting mutton, but the estimate they gave me in British Columbia was 30,000 sheep in that Province. I had the pleasure of a chat with Mr. Burns, one of the leading men in Vancouver, and manager for P. Burns & Company, the largest meat sellers in the West. He told me that his firm handled one hundred thousand carcasses of mutton per year in the three cities of Victoria, Westminster and Vancouver, and yet there are only 30,000 sheep in the Province. I think it will pay well to try and raise enough sheep in Canada to feed our own people.

I do think that there is no animal on the farm that, if carefully attended to, will pay better than sheep.

The gentleman who will follow me will tell you what has been done by the Ontario sheep breeders, and you will find that in every case where sheep have been kept, there has been a good profit made. I believe there is a great future for the sheep industry in Canada, and if we will only raise more sheep we can make splendid returns on the money invested.

A MEMBER: Have you ever heard of bells being placed on the sheep for the purpose of preventing dogs from running the sheep?

COL. MCCRAE: Yes, I believe it helps; but it is not effectual in stopping the dogs.

Q.—What about having a goat among the sheep?

A.—I have not had any experience.

A MEMBER: I think there should be a heavier tax put on the dogs. Some dogs got among my sheep, and it was an expensive matter for me.

A MEMBER: Pass a by-law in your township to kill them off.

COL. MCCRAE: There is a lot of carelessness about dogs. Our people always kept a lot of collie dogs, and the very last thing in our house every night was to see that the dogs were carefully shut in. They were not allowed out at all at night.

A MEMBER: I was in a locality where all the sheep had bells on. I made inquiries, and I was told that they never knew of dogs tackling a flock of sheep that had bells on them. I have never had any trouble since I put on plenty of bells.

COL. MCCRAE: I think it would be a good idea.

A MEMBER: If I had one hundred sheep I would place a half dozen bells on the flock.

MR. STEVENSON: It is a great help, but I have had them killed with bells on.

A MEMBER: I keep a large flock of sheep, and I used bells this year for the first time, and I have not had any sheep killed.

A MEMBER: It is the dogs from the towns that do the killing, and I think all dog taxes should be paid into the county and full value paid for all sheep killed.

THE SHEEP SITUATION IN ONTARIO AND EASTERN CANADA.

R. H. Harding, Thorndale.

The question which has been put on the programme for me to speak on this afternoon is a very important one. It would take all day to give you the facts as to the sheep industry in Ontario and Eastern Canada.

Why the sheep have decreased is something that nobody seems to be able to answer. It is true that the dogs have done a lot of harm, but at the same time there are a lot of farmers who have given up raising sheep that never had any trouble by reason of dogs bothering their flocks. There are other men who have lost a number of sheep by dogs and who still have faith in the business. I will speak with reference to the Maritime Provinces first. Down there they have great faith in their Province, and in their own way of doing business. There are a number of live wideawake stockmen, but, generally speaking, they are very hard people to reach with improved stock. A great many of them think they know better than anybody else how to do things. There are some people down there who are trying to improve their stock, but there are only a few when compared with the total number of farmers in those Provinces. They have one of the most suitable countries for keeping sheep; they have a lot of rough, hilly country which is not suitable for other stock. They claim that they can beat Ontario in growing roots, and that is one of the best feeds for sheep. They can also grow splendid clover; they have plenty of land to run their sheep on in summer, and it should be no trouble to keep large flocks of sheep. I believe they can grow more and better wool per head than we can, because they have the salty atmosphere, and it seems to keep the wool fresh. If they had the breeding I believe they could beat us in growing wool. They are very backward in taking hold of good breeds. They have not as good laws pertaining to dogs as we have in Ontario now. Their dog laws are not compulsory, and some townships have no dog laws at all. In my opinion they should have a compulsory dog law. It is largely in the hands of the sheep men of the country to see that the dog laws are enforced. There are several ways of doing that: In the first place get after the Legislature and urge a compulsory dog law, and then you should see that the assessor gets after all the dogs. You all know from experience that the poorer the people the more dogs they have. There is no necessity for any family having more than one dog unless they are breeders of dogs, and then they come under the kennel license. It is usually where there are two or more dogs running together that they do the mischief. A short time ago a well-known sheep breeder of Burford had some of his valuable sheep killed, and it was two little curs from the village that did the mischief, and he could almost put one of them in his pocket.

As I said before, they are very backward in sheep growing in the Maritime Provinces. One wealthy lawyer in Boston, who has a large tract of land in the Maritime Provinces, is trying to clean up his place. He sent the men out to round up the sheep on his ten thousand acres, and all they could get was one hundred sheep, and they are supposed to have been running on the place for twenty years. The flock had not been improved, and was not cared for in winter time. Out of that one hundred sheep there were thirty-six old rams and only seven lambs, a very small increase. Now we want to educate the people to take better care of their sheep. This man said the poachers were worse than the dogs.

It is estimated that there is 2,500,000 lbs. of wool produced in the Maritime Provinces, and I think that through their system of late shearing they are losing

one hundred thousand pounds of wool annually—that is wool that is rubbed off on bushes and fences before the sheep are shorn. It may look small to the breeder of a few sheep, but I estimate that four ounces of wool is rubbed off of each sheep on the fences and bushes before shearing time comes. They also neglect docking castrating and dipping; scarcely any of their lambs are docked. They pay very little attention to their sires until the breeding time comes, and then they exchange with their neighbor, or perhaps keep over one of their own lambs. It will take a good deal of education to remove some of these things. They seem to be a contented people, and they do not farm very well—I mean a large number of the farmers. Fortunately there are many exceptions. If they run short of money they go and fish for a while. They are not after great wealth; they are just after an easy time and good health, and I believe they have the health. They have organized a Sheep Breeders' Association for the Maritime Provinces; the first meeting was held at Amherst a few weeks ago. They have made a good start, and we hope for improvement in the near future. Nova Scotia and New Brunswick are quite similar, except that they have more abandoned farms in New Brunswick.

I want to speak of Prince Edward Island for a few minutes. If they had a foundation stock they could show Ontario how to breed sheep. They can grow a better class of lamb than we can, for they have richer grasses. Their farms are practically all improved. All they require is good sires, and they can breed the best sheep in the country. According to the figures I have, sheep have decreased in Prince Edward Island 91,496 in thirteen years, and in 1910 they only had 75,000. That is a great decrease, and they could not tell why it has occurred if you asked them. I think that almost any of our mutton breeds are suitable for the island. The very heavy breeds do not seem to be suitable for New Brunswick and Nova Scotia. I believe that the use of immature sires, to say nothing about their breeding, has been the great cause of the lack of quality in their sheep. Professor Arkell told you of an association on the island that increased their prices by one and three-quarter cents per pound, and they have been able to increase the weight of their lambs from 82 lbs. to 97 lbs. per head. That has been done by improved breeding and taking better care of their lambs.

As far as Ontario is concerned, I would like to say that there is a lot of missionary work to be done right here at home. There are some parts of Ontario that are quite as backward as the Maritime Provinces in the matter of good sires. I have been in some places where they hardly knew what a good sire was. I asked one man why he did not dock his lambs, and he said: "I sell them by weight, and they weigh heavier with their tails on." That man never studied his business, and did not know that the feed and energy required to grow that tail would have grown him some good meat.

In my opinion there are too many lambs sold in the early fall; we glut the market, and we have to take less than they are worth. They are put into cold storage, and the dealer makes the money out of them. If we would keep them for a short time longer we would get an increase of from two to three cents per pound for them. There is little docking, dipping, and castrating done in Ontario. There are very few men who know anything about dipping, and I do not know that there is anything that would pay so well as dipping twice a year. The dipping not only improves the quality of the sheep but the quality of the wool.

Q.—What time of the year would you dip?

A.—Right after shearing in the spring and then in the fall before it gets too cold;—in October before they go into winter quarters. I estimate that by late shearing in the Province of Ontario we lose about 260,000 lbs. of wool.

MR. STEVENSON: What about washing the wool?

MR. HARDING: They do not seem to understand washing on the sheep like we do here. In the Maritime Provinces they tub wash after shearing. I have given up the practice of washing.

Q.—For what reason?

A.—One reason is that you have to keep the wool on the sheep too late in the season in order to get water fit to go into, and another reason is that I do not see any profit in it. I do not think it would pay me to keep the wool on my sheep till the 24th of May, and that is about as soon as the water is fit for any man to go into. I can shear my sheep early in April, and have the work off my hands before the busy time. You can almost see the sheep grow after they get that wool off in the early spring, and I estimate that a quarter of a pound per fleece will be rubbed off on the bushes if they are left till late in the spring.

Q.—If it sets in cold after the sheep are sheared, do you stable them?

A.—Yes, I have a warm place that they can go into. I think it would be cruel to shut them out with their fleeces off in cold weather.

In conclusion, let me say that I think we should use more intelligence in handling our sheep. We give less attention to our sheep than to any other line of stock on the farm. We let the sheep rough it, and take care of the horses and cows, and if the sheep pull through and make us any money we say that is so much extra. There is nothing on the farm that makes as good a return as the sheep, and we should take the best care of them. They give us the best of meat, and they are the only class of stock that we have from which we get our clothing, and we should remember these things and give our sheep more and better attention.

I think co-operation in sheep breeding and marketing would be a good thing for the farmers of Ontario. I believe Ontario is destined to be the breeding ground of pure-bred sires for Canada. We have the best breeding stock on the North American continent, if we would only take care of them. We—I mean the pure-bred breeders—give special attention to our show stock, and in some cases we neglect the other stock. This is not right. What we want to do is to put more flesh on our stock and have them in better shape to do us credit when the buyer comes around.

Q.—Don't you think it would be better to shear the ewes before lambing?

A.—I do think so. The shearer requires to handle them with care. I do not think you should roll them over two or three times. If you only turn them up and shear them in that way you will not hurt them.

Q.—At what age do you favor castrating the lambs?

A.—I have had better success at from three weeks to two months than earlier or later.

Q.—Would it pay a farmer to keep wethers over a couple of years for shearing purposes?

A.—I do not think it would. I think if he has kept them up till February, and has kept them well, he has reached the limit of profit, and that is the time he should sell.

Q.—What dip do you use?

A.—Use any of the standard dips, and you will find them all right.

Q.—Do you believe in crossing a long wool with a short wool?

A.—No. I prefer to grade up with pure-bred sires, sticking to one breed. When I was out this summer I met a man who had used a Southdown ram for two years, and I said: "Are you going to use him this year?" "No," he said. "I am going to use a Cotswold this year to avoid inbreeding." That man had an idea that he had to change the breeds or he would be inbreeding.

DISCUSSION.

Led by Lt.-Col. R. McEwen, Byron:

The subject we have been discussing this morning is a very important one; it is one that has been seriously neglected, or rather we have been paying no attention to it. There has been very little done along educational lines in sheep breeding, and we have allowed it to drop out of our minds. The social standing and culture of a nation hinges on its agriculture, and agriculture is raised by the breeding of live stock. I believe, therefore, that the more attention we pay to our live stock the higher will be our standard in comparison with other nations. You have heard so much about the decline in sheep breeding in the different Provinces of the Dominion that it is not necessary for me to refer to that feature. In our own Province there are a few reasons why we have been paying so little attention to sheep breeding; in the first place, nothing has been done along educational lines. We as farmers are too apt to follow methods that are in vogue in our own districts. When one man sells his sheep everybody is liable to follow his example. We fail to look at our business from a business standpoint, and rather copy our neighbours.

Then there is the question of dogs, and I do not believe they play such an important part as some of the speakers would lead us to believe. The best evidence you can have of that is by taking the returns of the different municipalities showing the number of sheep that have been killed and the amounts that have been paid out. There is no single instance, so far as I am aware, where any township has paid anything like the full amount of money out that they have collected for dog tax.

Another thing that plays an important part in decreasing sheep breeding, and one to which greater attention should be paid, is worms. Farmers who have had their lamb flocks devastated by worms have been greatly discouraged. If they do not know how to treat them they possibly have severe losses, but by applying the proper remedies there is no reason why this should stop the breeding of more sheep.

There is the greatest necessity for breeding more sheep in this Province. There are thousands and thousands of acres of unproductive land that are not bringing to their owners one copper, that would make a good return, if they were devoted to sheep pastures. Why is it that sheep are not put on these pastures where they would make a good return? That is where I believe a little education along sheep-breeding lines would have a good effect. I do not believe there is a farm of fifty or more acres, except possibly where they are specializing in fruit, in the Province, that could not profitably support a flock of sheep. You cannot expect any farmer to go into any line of work unless you can show him that it will pay. I would not ask any man to go into the sheep business unless I knew that it was profitable. We frequently have people come to us with other schemes than farming, and they show us the advantages of investment, and it is by the arguments of these people that our money is taken away and put into other lines about which we have no knowledge. Can we show that sheep breeding is profitable? I think we can.

You can buy a good fair breeding ewe in the fall for $6 or $7. That is your capital invested. In about ten months you have an increase of one and one-quarter per cent. Many people claim that they get an average of a lamb and a half, but we will take only a lamb and a quarter. You will admit that that lamb is worth $5 at least. Some of you will say more, but at this figure she produces $6.25, or practically the price of your ewe, in eight or ten months from the time you make the investment, and you still have the ewe and her wool. I do not know any business that will make a more attractive showing. I do not advocate the man on the small farm specializing on sheep, but every farmer can keep a few and make a handsome profit.

Reference has been made to the import and export trade in mutton. We all know that our export trade is *nil*. I would like to draw your attention to the class of mutton that is being imported. Some of you have seen the importations that are brought to the Toronto market that do not average over 70 lbs. per head. What would you think if your sheep did not show a better average than that? What kind of mutton will these sheep produce? Would it be attractive when placed on your table? Would that class develop a taste for mutton among the people who consume it? One large firm in the West that was buying mutton by contract had to insist that Canadian sheep should be supplied. They had found they were so much better, and they were losing their trade by selling the foreign article.

With the short time that is at my disposal I had better let the discussion of the Maritime Provinces pass, except that I would like to say that a great deal can be done in that part of the country in sheep breeding. It is not so well adapted to general agriculture as this country, but they can specialize in sheep in a large way, and a number of companies are buying farms with that object in view. I fear that some of our rams that are not good enough are sent into that country. I think we should ask more money and send better rams. Complaint has been made in that regard.

Two of the speakers have referred to the good effect of co-operation in selling. I wish something could be done that would bring about as good results as were produced by the parish priest at Tignish in Prince Edward Island. In this one parish, 1,200 lambs were brought together at one sale, and were sold at 5½ cents per lb., while individuals were selling at 4¾ cents. We consider that these people are backward, but they are doing a good work in co-operation. We have not been paying that attention to the use of good sires that we might in the Province of Ontario. I hope a great effort will be made to induce people to go into sheep breeding in this Province, and that more attention will be paid to the use of good rams than there has been in the past. Those of us who are in the pure-bred business find that there is a very small local demand for rams. The effect of that is that our best rams are sold to go to the United States to supply the show rings there, or else are retained for our show rings here. If more flocks were established in the Province our business would be on a better footing.

The selection of a breed is important, and my advice is to study our surroundings, the nature of our soil as well as the pasture it produces, and take that breed which, under similar conditions, flourishes best in its native land.

With regard to dipping, I would say that the arsenical dips are preferable in the spring and the others in the fall.

If we would all market our wool unwashed it would be to our advantage. I was in one large wool factory at Amherst, Nova Scotia, and they had an expensive man sorting wool, and he was pulling out of the sacks wool that had been washed,

and he was taking it in pieces in his hand and sorting it into a half dozen different baskets; you can fancy at what expense that work was being done. When he could take the whole fleece he could do it much better and more quickly.

MR. HARDING: What do you mean by arsenical and other dips?

A.—Creolin is the foundation of the other dips.

A MEMBER: I consider that my sheep are worth to me the price of a man's wages in keeping the weeds off my farm. If I had a man to do the weeding he would leave the weeds on the top of the ground, but the sheep turn them into good mutton.

IMPORTANCE OF SEED IN SECURING A ROOT CROP.

C. A. ZAVITZ, PROFESSOR OF FIELD HUSBANDRY, ONTARIO AGRICULTURAL COLLEGE, GUELPH.

The root crops of Ontario amount in value to nearly ten million dollars annually. They include swede and fall turnips, mangels, sugar beets, and field carrots. With the exception of some of the swede turnips and a few sugar beets, which are exported annually, practically all the roots which are grown in Ontario are used in the Province.

At statistics in regard to the amount of land used for different crops have been carefully collected in Ontario for the passt thirty-one years, through the medium of the Bureau of Industries, we are enabled to secure some interesting information in regard to the increases and the decreases in acreages of our various farm crops. A study of such statistics frequently enables us to understand certain phases of farming operations in a manner which cannot be obtained in any other way. In looking over the data in regard to the number of acreages used annually for the different classes of roots interesting information can be obtained which cannot be given in detail in this brief address. I wish, however, to present a summary which will convey in a very concise manner some results which are worthy of consideration. The table here presented shows the average annual acreage of turnips and carrots taken separately and of mangels and sugar beets taken together in each of three ten year periods.

Ten Year Period.	Turnips.	'Field Carrots.	Mangels and Sugar Beets.
1883–1892	100,023	10,422	20,170
1893–1902	147,790	11,031	45,436
1903–1912	120,335	4,654	81,836

These figures show us that there has been a considerable decrease in acreages of turnips and of field carrots during the past ten years as compared with the ten years previous. It also shows that during the past thirty years the growth of mangels and sugar beets in Ontario has increased rapidly. It will be seen that while the turnips and the carrots are decreasing the mangels and the sugar beets are gradually increasing in this Province. It is probably safe to say that in a very few years the acreage devoted to the growing of mangels and sugar beets will be considerably greater than that used for the growing of swede turnips, fall turnips and field carrots. It is thought wise in this address to confine the remarks principally to the seed of mangels, although in one or two particulars the seed of the other classes of roots will receive consideration.

Varieties of Mangels.

Mangels are classified into long, intermediate, tankard and globe according to their shape, and each class is represented by a number of varieties. Some of these varieties vary greatly not only in shape, but also in size and color. We have tested at the Ontario Agricultural College mangels under different names. In some cases, however, the mangels under different names resemble one another so closely that they may be considered as the same variety, and yet there are frequently differences in purity of seed, in germination, and in productiveness even of these mangels owing to the varying conditions under which the seed has been grown, harvested, stored, etc. I remember testing long red mangels obtained from two different seedsmen, and known under two distinct names. I was afterwards told by one of the seedsmen that these two mangels were identical, and yet we found some difference in purity, in germination, in uniformity, and in productiveness. It is, therefore, very difficult indeed to get anything like a definite knowledge of the different varieties of mangels from the seedsmen's catalogues. It is also exceedingly important to conduct experimental work in order that the different varieties may be grown and studied under uniform conditions. As the seasons vary considerably it is unsafe to draw conclusions from experiments conducted for one or two years, but when the results are obtained for a sufficiently long period the results furnish information of great value. We have had ten different varieties of mangels under experiment at the College in each of the past eleven years, and five of them in each of the past nineteen years. A large amount of seed was used each year in order to get a uniform number of plants. Even with this precaution, however, the stand of the plants was uneven in 1909 and 1898, and the results for those two years have been discarded. The following table gives the average yield per acre of each of ten varieties of mangels grown under uniform conditions in each of ten years, and of five varieties of mangels in each of seventeen years:

Varieties.	Bushels per acre.	
	Average 10 years.	Average 17 years.
Yellow Leviathan (Ferry)	1,028	935
Sutton's Mammoth Long Red	1,006	911
Carter's Windsor Prize Taker Yellow Globe	977	.....
Rennie's Perfection Mammoth Long Red	974	.....
Steele-Briggs' Giant Yellow Intermediate	967	893
Garton's Improved Yellow Globe	964	.....
Ideal (Kirsche)	941	.....
Simmer's Mammoth Prize Long Red	920	900
Steele-Briggs' Giant Yellow Globe	883	.....
Bruce's Mammoth Red Intermediate	850	774

Of the ten varieties of mangels presented in the table, the seed of six was obtained from five Ontario seedsmen, the seed of three from three English seedsmen, and the seed of one from a seedsman in Germany. The name in every case indicates the color and the shape of the root with the exception of the Yellow Leviathan, which belongs to the Intermediate, and the Ideal to the Tankard class. The results show that the variety which has given the highest average yield per acre belongs to the Yellow Intermediate class, the second to the Long Red, and

the third to the Yellow Globe. We have, therefore, three distinct types of roots represented by the three highest yielding varieties in the average results for ten years. It will be noticed that the three lowest yielding varieties in the ten year experiment also belong to the same three classes of roots as the three highest yielding varieties. It will, therefore, be seen that in these results there are greater differences amongst varieties than amongst the classes themselves. The summary shows that the Yellow Leviathan surpassed the Bruce's Mammoth Red Intermediate in average annual yield of roots per acre by 5.37 tons or 177.2 bushels. The results here presented show that the seed of mangels is influenced considerably in accordance with the variety to which it belongs.

Yellow Leviathan Mangels.

The seed of the Yellow Leviathan Mangel was first obtained by the Ontario Agricultural College from D. M. Ferry, Windsor, Ontario, in the spring of 1893. The name "Yellow Leviathan" was entered in the catalogues of some of the other Ontario seedsmen as follows: The Steele-Briggs Seed Co., Toronto, in 1896; Jas. Hewer, Guelph, in 1908; The Wm. Rennie Co., Toronto, J. A. Simmers, Toronto, and J. A. Bruce, Hamilton, in 1909; and Geo. Keith, Toronto, in 1910.

In each of the past four years we have obtained seed under the name of Yellow Leviathan, as advertised by a number of Ontario seedsmen. These different lots have varied considerably in purity, in germinating power, in shape, and in color. The seed which produced roots each year resembling most closely those obtained from the original seed obtained by the College, was that secured from the D. M. Ferry Co., Windsor, the Steele-Briggs Seed Co., Toronto, and from the Wm. Rennie Co., Toronto.

In each of the past few years seed of the Yellow Leviathan variety of Mangels has been produced at the Ontario Agricultural College. The following table gives the percentage of germination of the mangel clusters of the Yellow Leviathan variety of mangels as grown at the College, and as obtained from the D. M. Ferry Co., The Steele-Briggs Co., and the Wm. Rennie Co., in each of three years:

Sources	1909	1910	1911	Average 3 years
Ontario Agricultural College	142	90	137	123
D. M. Ferry Co.	84	101	129	105
Steele-Briggs Seed Co.	85	96	116	99
The Wm. Rennie Co.	41	85	61	62

The germination of the seed was obtained with much carefulness in the field. The average results in the foregoing table are those of eight distinct tests. It will be seen that the seed which gave the highest per cent. of germination was that grown at the Ontario Agricultural College in 1909, and in 1911, and that obtained from the D. M. Ferry Co. in 1910.

In 1911 there was a registered frost at the College of two degrees, on September 14th, and the mangel seed was not collected until September 26th. This frost apparently proved disastrous to the germination of the mangels, as its vitality was practically ruined.

Germination of Mangel Seed.

In each of the past four years very careful determinations have been made in the field as to the percentages of plants produced from exact numbers of clusters planted under uniform conditions. This was an extensive experiment made in a definite way to determine the actual percentage value of different varieties of mangel seed obtained from different sources, and in different years. In order to show the great variation of these results we simply here enumerate the extreme percentage of germination of the clusters of mangels of the different varieties tested in each of four years.

Years.	Varieties.	Per Cent.
1909	Ontario Seed Co's. Ideal	174
	Rennie's Perfection Mammoth Long Red	15
1910	Steigler's Yellow Leutewitzer	158
	Steele-Briggs' Yellow Globe Selected	15
1911	Steele-Briggs' Prize Mammoth Long Red	219
	Rennie's Yellow Leviathan	60
1912	Rennie's Perfection Mammoth Long Red	125
	Bruce's Gate Post Mammoth Long Red	125
	Metta's Yellow Eckendorf	35

It will be seen that there is a very great variation in the germination of the clusters of mangels of the different varieties in each of the past four years. It is not a matter of variety, however, as the seed of the Rennie's Perfection Long Red, which was the lowest with a germination of only 15 per cent. in 1909, occupied the highest place with a germination of 125 per cent. in 1912. It will also be seen that it is not a matter of seedsmen, as the Wm. Rennie Co. sold mangel seed which occupied the lowest place in germination in 1909 and again in 1911, and the highest place in 1912, and the Steele-Briggs Seed Co. sold mangel seed which occupied the lowest place of all the varieties in 1910, and the highest place of all the varieties in 1911. The natural conclusion is that the mangel seed of any variety in the hands of any Ontario seedsmen may produce either a high or a low germinating power. The germination of the mangel seed has a much greater influence on the actual returns of a crop than many people realize. If we wish to grow mangels in Ontario with the hope of securing a good crop it is absolutely essential that we use seed of good vitality.

Selection of Root Seed.

A large amount of experimental work has been conducted at the College within recent years to determine the influence of different selections of root seed upon the resulting crop. Four tests were made annually with the different selections of seed of the field roots. Duplicate experiments were conducted in which the seeds of the different selections were planted separately, and duplicate experiments were also conducted by planting three large, five medium, and eight small seeds at each place where it was desirable for a root to grow. The plants were thinned to one at each place, and at equal distances apart. When the roots were harvested the yields of the duplicate tests of each method were averaged. The following

table gives average results of the duplicate test made by means of each of two methods of comparison in order to ascertain the amount of influence of the size of root seeds on the yield of the roots produced:

Method of Planting.	Roots.	Number of Years' Tests.	Yield of Crop per Acre.		
			Large Seed. (tons)	Medium Seed (tons)	Small Seed (tons)
Plots in which equal numbers of seeds were planted separately.	Mangels	5	31.19	27.02	18.57
	Sugar Beets....	5	23.25	21.32	13.48
	Swede Turnips.	5	15.35	12.63	7.03
	Fall Turnips...	5	26.72	22.00	13.55
	Field Carrots ..	5	22.32	19.31	13.59
Plots in which equal numbers of plants were left when thinning.	Mangels	5	35.17	32.23	24.47
	Sugar Beets....	5	22.54	22.37	15.05
	Swede Turnips.	5	18.77	17.85	10.40
	Fall Turnips...	4	26.14	25.35	24.00
	Field Carrots...	5	26.62	25.13	18.87

NOTE.—In the case of mangels and sugar beets the seed clusters instead of the separate seeds were used.

In the table here presented we have the average of no less than ninety-eight distinct experiments conducted with large, medium, and small seeds of five distinct kinds of field roots. It will be noticed that in every instance the large seed produced greater yields than the medium sized seed, and that the medium sized seed produced greater yields than the small seed.

These results go to show very clearly that the root crop is greatly influenced by the quality of the seed sown, and that the quality of the seed is determined largely by variety, by the percentage of germination, and by the comparative size of the seeds within the variety. Good seed is at the very foundation of success in root production.

FEEDING ROOTS.

G. E. DAY, PROFESSOR OF ANIMAL HUSBANDRY, ONTARIO AGRICULTURAL COLLEGE, GUELPH.

There are few foods for animals regarding which we find such a conflict of opinion as we do in the case of roots. Chemical analysis shows about 90 per cent. of water in our leading root crops, and this fact is variously interpreted by those interested in feeding animals. Some claim that the water in roots is of no more value than the water an animal drinks, and that feeding roots is an expensive method of watering animals, while others claim that the water in roots is different from ordinary water, and has an actual feeding value. As a rule, truth lies midway between extremes, and the present paper is an attempt to present a rational view of the question.

Experiment stations have done considerable work with roots, and their findings are of importance in arriving at conclusions regarding the feeding value of roots.

Yield of Dry Matter per Acre.—In the first place, it may be noted that the Maine, Pennsylvania, Ohio, and Ontario Experiment Stations compared the yield of dry matter per acre from roots and corn. Maine obtained 3,415 lbs. of dry matter per acre from Swede turnips, and 5,580 lbs. from fodder corn. Pennsylvania obtained 4,554 lbs. of dry matter per acre from mangels, and 6,763 lbs. per acre from corn; Ohio, 3,000 lbs. dry matter per acre from mangels, and 6,000 lbs. from corn; and Ontario, 5,034 lbs. dry matter from mangels, and 8,135 lbs. from corn. So far as yield of dry matter per acre is concerned, it will be noted that corn shows a marked advantage over turnips and mangels.

By *dry matter* is meant what is left after all the moisture of the product has been driven off by heat.

Dry Matter in Roots and Silage, for Milk Production.—The Ohio, Pennsylvania, and Vermont Stations compared the dry matter of corn silage and roots for milk production. The following table, taken from "Feeds and Feeding," shows results from these trials:

Milk From 100 Pounds of Dry Matter in Corn Silage and Root Rations.

Station.	Root ration.	Silage ration.
Ohio. 1889	59 lbs.	62 lbs.
Ohio, 1890	59 "	60 "
Ohio, 1891	62 "	66 "
Ohio, 1892	69 "	76 "
Pennsylvania	87 "	82 "
Vermont	113 "	119 "

From the above table it will be seen that in every case but one the dry matter in the rations containing silage proved more effective in the production of milk than the dry matter in the rations containing roots. It is difficult to explain why such should be the case, unless the dry matter in the silage rations was underestimated.

At the Central Experimental Farm, turnips proved more expensive and not much more effective than corn silage for milk production.

The Cornell Station found that 1 lb. of dry matter in mangels is slightly superior to 1 lb. of dry matter in corn silage. Also, that 1 lb. of dry matter in mangels is equal to 1 lb. of dry matter in grain, and that mangels may replace half the grain ordinarily fed in a ration composed of grain, mixed hay, and silage.

At the Copenhagen Station, very extensive trials go to show that 1 lb. of concentrates in the form of grain, bran, and oil cake is equal to 10 lbs. of mangels. Also, that, for cows, 1 lb. of dry matter in roots is equal in feeding value to 1 lb. of Indian corn, mixed grains, or ¾ lb. of cotton-seed meal. It was also shown that the water content of the milk was not increased by the liberal feeding of roots.

The results of tests quoted above are not exactly uniform, yet they all point to one thing, namely, that for dairy cows the dry matter of roots is not materially different in feeding value from the dry matter in other foods.

Roots for Steers.—At the Ontario Agricultural College, roots have been fed in comparison with corn silage for fattening steers, and in all cases the

roots did not make so good a showing, pound for pound, as silage. In one series of tests, silage showed 25 per cent. higher value per ton than roots, and in other tests the difference in favor of silage was greater.

A review of British methods of steer feeding shows a very heavy use of roots, as high as 150 lbs. per steer per day in some cases, accompanied by a comparatively light meal ration. The relatively low cost of labor in Britain, and the high price of concentrated foods, renders it advisable for the British farmers to use roots as a substitute for a large portion of the meal ration. In this country, such a practice would not be the most economical, more especially because we can raise corn for silage better than they can in Britain, and corn silage has been shown to be a cheaper food than roots for fattening steers.

Roots for Lambs.—Every feeder knows something of the importance of roots for sheep in general, and it is difficult to get a really satisfactory substitute. At the Michigan Experiment Station, sugar beets gave better results than corn silage for fattening lambs, but turnips were scarcely equal to silage.

At the Iowa Experiment Station, mangels were fed against corn silage. The daily gain was slightly in favor of mangels, and the grain consumed for 100 lbs. gain was less for the lot receiving mangels, but the lower cost of corn silage made it the more economical food of the two. In Great Britain, roots are used very liberally in sheep feeding, and the quality of sheep produced in that country speaks well for the suitability of the ration.

Roots for Hogs.—The average results of feeding roots to hogs at five Experiment Stations show that 100 lbs. of grain was replaced by feeding 557 lbs. of roots. In tests at the Ontario Agricultural College, our best showing for roots was 442 lbs. of roots equivalent to 100 pounds of grain, which may be regarded as an abnormally high value for roots.

In extensive feeding trials in Denmark, it was found that 1 lb. of ground barley was equal to:

——	Dry matter.	Sugar.
7.5 lbs. mangel beets containing.....	11.0%	6.7%
6.5 " " " "	13.6%	8.9%
5.0 " " " "	16.5%	10.9%
4.0 " " " "	21-2%	14.0%

The very high return from feeding roots at the Ontario Agricultural College is due probably to the fact that the hogs which were not fed roots received an exclusive meal ration, and the roots appeared to stimulate the appetite, and aid digestion, which was shown in the more thrifty appearance of the root fed hogs. In the Danish trials, dairy by-products were fed to all the hogs, and hence the roots do not show to as great advantage, the dairy by-products giving the desired variety in the ration of the hogs which received no roots.

It has also been found that hogs fed equal weights of roots and meal produced a better quality of bacon than those fed grain alone.

Roots for Horses.—Very little, if any, actual experimental work has been done in connection with feeding roots to horses, but every horseman knows the beneficial influence of a few roots, especially in the case of idle horses. Probably their laxative action is their main feature.

Influence on the Carcass.—Sanborn, of the Utah Experiment Station, investigated the influence of roots upon the carcass of the animal. In his summary

of results, he makes the following statements: (1) The live weight gain for cattle and sheep was greater, and for hogs less, when fed on roots. (2) The dressed weight of cattle, sheep, and hogs showed in every case greater shrinkage for those fed on roots. (3) The root fed animals contained more blood and necessarily more water in the blood. (4) The root fed steers had heavier vital organs. (5) The fat was always less for the roots feed animals.

Interpretation of Results.—It is one thing to collect results of investigations, but it is quite another thing to interpret them inelligently. The investigations we have noted are more or less contradictory in some respects, but there are certain points which seem to stand out quite distinctly, and may be noted as follows:

1. Corn produces more dry matter per acre and produces it at a lower cost than roots.

2. In cases where rations without roots are well adapted to the requirements of the animals, the addition of roots need not be expected to effect any marked improvement. In such cases, the dry matter contained in roots is a fairly accurate measure of their feeding value. This point is brought out in the comparison of rations containing roots and silage for dairy cows and steers, where silage furnished the necessary succulence. It is also brought out in the Danish experiments with swine, where a ration comprised of dairy by-products and meal was fed against the same rations with roots added. The dairy by-products furnished the necessary variety, and the roots were valuable only in proportion to the dry matter which they furnished.

3. When a ration lacks the necessary variety or succulence, the addition of roots effects an improvement out of proportion to the dry matter which they contain. It is in such cases that roots show a value higher than their composition would indicate. This point has been demonstrated in tests with swine, where an exclusive meal ration has been fed in comparison with a ration of meal and roots.

4. Roots affect the composition of the animal carcass. It has been demonstrated that roots give a carcass containing more blood and heavier vital organs than is produced by a dry ration. This point is of great significance. The possession of an abundant supply of blood and of fully developed vital organs must be an immense advantage to the young growing animal, whether intended for feeding or breeding purposes. This is a point which many of our best feeders recognize, and there is little doubt that roots will continue to be a popular crop on many farms where corn and the silo play an important part.

To summarize the whole question, it may be said that corn silage is a cheap and efficient substitute for roots in some cases, but for certain classes of stock, and especially in the case of young animals, it is difficult to find anything that will take the place of roots.

Q.—Is silage good for sheep?

A.—As a rule, roots give a little better results, but they are not quite as economical as silage. I have heard men on this platform say that they would not feed silage to sheep, and have heard other men say they have fed silage to their sheep and were well satisfied. Some men seem to get along better with it than others. If a man finds he is getting satisfactory results, I do not see why he should not continue.

Q.—I can never get a right answer to that question. I have not a silo, because sheep are my main stock: but if I thought it would be successful, I would soon put up a silo.

A.—If I were to speak from my own experience, I would say that we like roots better than silage for sheep. I remember, however, a Southdown ram that got sick, and he got so weak that he could not get up himself. The shepherd was trying to get something that the ram would eat, and he finally tried silage. The ram ate it, and got better from that day, eventually getting well and strong. That is the only sheep I know that did better on silage than on roots.

Q.—Are not roots more often fed to sheep than silage?

A.—Yes. When the corn is green when put in the silo, it develops an acid that is not good for sheep. If it is good, sweet silage, it might answer as well as roots.

Q.—What do you think about feeding silage to horses?

A.—We have fed silage to horses when we were short of roots, but you want to be absolutely certain that there is not a particle of mould in it or the chances are you will kill your horses. Many horses have been lost through feeding mouldy silage, though there may be so little mould that it is scarcely noticeable.

Q.—What about carrots for horses?

A.—Horses do very well indeed with carrots. They are very fond of them, but from my experience it does not seem to make very much difference whether carrots, turnips or mangels are fed. Roots have a laxative effect which is beneficial, especially for horses when they are idle in the winter.

Q.—How do you teach your horses to eat them?

A.—They do not need any teaching; they take hold from the start.

Q.—I cannot get my horses to eat them?

A.—I think perhaps horses like carrots better than almost any other kind of roots, but our horses will eat mangels, turnips, or sugar beets.

THE CHAIRMAN: I have had fifteen or twenty years experience in feeding ensilage to Shropshire sheep with very good results. I think ensilage well cured is an excellent food for sheep.

Q.—What about the value of apples in comparison with roots for feeding stock?

PROF. DAY: I did not look that point up especially, but if I remember rightly, apples contain rather more dry matter than roots, and if the apples do not contain too much acid, they would be valuable just about in proportion to the dry matter they contain. I have seen results of some tests made with the by-product of a cider mill, and it gave rather better results than I expected to see. Apples have the objection that if they are sour they contain too much acid, and I do not think you would get as good results as you would from feeding roots.

A MEMBER: We had a farmer come into our part of the country from another section, and he had been accustomed to feeding apples, and there was an orchard on the farm, but there was no demand for apples that year. He turned the hogs on them and he let them run in the orchard, and almost before he knew it the hogs were so heavy that he had to cut the price of the hogs in order to make a sale. I think sweet apples have less sugar than the sour ones. An apple is sweet because of the absence of acid and not because of the presence of sugar, and for that reason cider made from sweet apples is not suitable for making vinegar. I think the sour apple is a better feeder than the sweet apple because sugar has a fattening quality.

PROF. DAY: I think possibly you are quite right, but at the same time I would not want to feed sour apples quite so heavily as I would sweet, for the reason that this acid might have an injurious effect upon the kidneys.

A SYSTEM OF DEVELOPING HEALTHY STOCK FROM A TUBERCULAR HERD.

R. W. Wade, Associate Professor, Animal Husbandry, Ontario Agricultural College, Guelph.

One of the greatest enemies to successful live stock raising is, undoubtedly, tuberculosis. Some diseases are more dreaded, but from the very fact of its slow, insidious growth the losses from tuberculosis in Canada are possibly greater than from any other source. We have, however, a fairly sure means of discovering the disease when present, viz., the tuberculin test, and when once the disease is known to be present in a herd steps can be taken to lessen its spread to others. I believe the time will come in this country when stockmen, instead of being indifferent or apparently afraid to make the test, will be anxious to know the truth as regards the presence or absence of tuberculosis in their herds. The test is easily made, costs very little money, and when the work is carefully performed, with the exception of very few cases, the stockman can be almost absolutely certain of the results given.

In the spring of 1909, the beef and dairy herds at the Ontario Agricultural College, were tested for tuberculosis. The beef herd, consisting of thirty-seven animals, gave the following results: fourteen gave no reaction, eighteen reacted, and five gave doubtful readings. Of the five doubtful ones, three afterwards reacted. The other two gave no reaction in subsequent tests and so are counted with the clean herd. As a final result, we had in the beef stable sixteen free from the disease and twenty-one reactors. In the beef stable, the reactors were either killed or removed to a quarantine stable, so we started the beef herd with sixteen sound animals.

After the first year, no calves from diseased animals were put in this stable, so we have not practised the Bang system with the beef herd. Before dismissing the beef herd, I might mention that this herd had rather more sanitary surroundings than the dairy herd; were kept in a brighter stable, better ventilated, and all animals except young calves were allowed to be out doors during the middle of the day.

The dairy herd consisted of thirty animals. Of these, twenty-one reacted, two were doubtful, and seven passed clear. The two doubtfuls reacted to the next test, and of the seven non-reactors three afterwards reacted, so as a final result we have in the dairy stable twenty-six reactors and four non-reactors. Of these twenty-six reactors, fourteen have been slaughtered during the last three years, leaving twelve now in the quarantine stable. Of the fourteen slaughtered, nearly all were found on post-mortem examination to be very badly diseased. Of the four non-reactors two have been killed and found to be free from disease. The remaining two are still in the clean dairy stable.

As the reacting animals were very valuable from a breeding standpoint, they were kept in the quarantine stable for the sake of their offspring, which we hoped to add to our clean herd. The calves from reacting cows were shortly after birth put in the clean stable and fed milk from healthy cows. At the present time, there are twenty-five heifers and young cows which have passed the tuberculin test this present fall, and of these twenty-five, three were from healthy cows, and twenty-two had tubercular mothers. To sum up, in three years we have a beef herd of fifty-four animals free from disease, a clean dairy herd of thirty animals,

and a small tubercular herd. How has this been accomplished? First, by the most careful use of the tuberculin test. Second, by removing all reactors from the sound herd. Third, by the most careful method of sanitation, the use of hot lime and carbolic (every stable on the college property being sprayed with hot whitewash at least once a year). Fourth, the close quarantining of all reacting animals. Fifth, having separate attendants to look after each herd.

As an instance of the value of some of these methods, I will cite a few cases that came under our observation. A calf born in the tubercular stable, April 13th, 1911, was kept there and given milk from one of the cows in that stable whose udder was perfectly sound. This calf was killed September 26th and found to be tubercular. Another calf kept in the tubercular stable through the winter of 1910 was allowed to suck one of the cows, the only precaution being taken that the cow's udder was washed off and the fore milk withdrawn before allowing the calf to nurse. This calf was slaughtered in the spring of 1910, and we could find no trace of the disease. Two cows had calves, one in October and the other in November, the former in the tubercular stable and the latter in the clean stable. The tubercular cow's calf was immediately taken to the clean stable and fed milk from healthy cows. The healthy cow's calf was put on this tubercular cow and isolated in a roomy shed where calf and cow ran together. These calves have been tested, the one in the clean stable at least three times, and it has always passed the test. The calf with the tubercular foster-mother reacted to the first test.

As far as our experience goes, it would seem to show that the only sure and certain way to keep a herd free from the disease is by the use of the tuberculin test and the strictest kind of quarantine. I am aware that there are men who honestly believe that they can recognize a diseased animal without the aid of the test. We have not found it so at the College, and some of the greatest surprises have confronted us in the reaction of animals, which from their general appearance and thrift one would almost be sure were healthy. We have had young steers making satisfactory gains of from one to two pounds per day which when tested gave clear reactions, and when slaughtered were found in some cases badly diseased. As an instance of what production of milk might be got from an animal in the last stages of the disease, I will give the milk yield of one of our dairy cows in 1910:

October, 31 days	709 lbs. milk.
November, 30 days	978 lbs. milk.
December, 31 days	975 lbs. milk.
January, 31 days	907 lbs. milk.
February, 28 days	684 lbs. milk.
March, 29 days	742 lbs. milk.

This gives an average for the last one hundred and eighty days of nearly thirty pounds per day. This cow was slaughtered the last of March and was found to be diseased in practically every important organ in the body. One could hardly believe that an animal so far gone with the disease could actually give, for the last four weeks of her life, nearly twenty-six pounds of milk per day.

As to the universal application of testing and sequestering of our beef and dairy animals, I can easily understand the difficulties that are to be met by quite a large majority of farmers with only one stable, with insufficient help, and with possibly some valuable animals in the herd. These men would be almost afraid to test their herd, and if they have tested are hardly in a position to so economically

handle their stock as to give such results as we have obtained at the College. In the case of a stockman with more than one barn and with sufficient help, I can hardly understand why there should be any serious prejudice against testing, because it should be a simple matter to keep all calves from infection, and in the course of five years, following rigid isolation of young calves, I would expect the younger animals in the herd to be free from the disease.

This appears to narrow down the benefit of testing to the well-to-do farmer, but I believe there is a way by which the small farmer, by co-operating with his neighbor, will be able to follow exactly the same procedure as his richer neighbor. If two men, each owning fifteen cows, would come to a business agreement, pooling their herd (the one man raising the young calves with the clean cows, the other man handling the diseased animals as a dairy herd), in three, four, or five years the diseased herd would, in all probability, be pretty well thinned out, and the clean herd raised under sanitary conditions should be free from disease, healthy, and twice as valuable as it would have been if brought up subject to infection. This scheme presupposes that the men have an intelligent appreciation of the danger from this disease, a sincere desire to produce better stock, and a wish to sell only such animals as will be a credit to them and not a curse to the purchaser, as I believe that many grade herds have been seeded down with this disease from the purchase of tubercular animals. There are no doubt difficulties in the way, but if two or three men could come to a fair understanding, possibly give and take a little, at the end of five years I would not be afraid of what their verdict would be as regards the following out of the Bang, or a modified form, of the Bang system.

[Professor Wade then exhibited a number of slides showing the effect the disease has on the different organs of the animal, and also a number of animals that were diseased, and sanitary stables, etc.]

GRAIN SMUTS AND THEIR TREATMENT.

J. E. Howitt, Professor of Botany, Ontario Agricultural College, Guelph.

Grain Smuts.—In this address I wish to call your attention to the following points regarding grain smuts: The losses due to grain smuts; what grain smuts are; the different kinds of grain smuts; different smuts require different treatment; the best treatment for the different kinds of grain smuts.

Losses Due to Grain Smuts.—It is exceedingly difficult to ascertain the financial loss caused by these diseases. In Ontario no attempt has been made to estimate this loss. In the United States, however, some estimates have been made by Prof. Orton of the U. S. Department of Agriculture. He estimates the annual loss in the United States from Loose Smut of wheat at $3,000,000, from oat smut at $6,500,000 and from Bunt or Stinking smut at $11,000,000. These figures are, of course, only approximate but they serve to impress us with the fact that the annual financial loss caused by smuts is very much greater than most of us have ever realized.

What Grain Smuts Are.—Grain smuts are fungus diseases, that is they are caused by minute parasitic plants called Fungi. These plants have not the power to manufacture their own food so they steal it from other living plants and in so

doing injure them in various ways and thus cause what are known as fungus diseases. A smut producing fungus is composed of delicate colorless threads which live inside the grain plant, and are so small that they can only be seen with the aid of a high power microscope. These fungus threads follow the growing point up the stem, and when the heads begin to form attack the developing seeds and consume the food being stored in them. These threads finally divide up and form immense numbers of spores. When this takes place the parts of the heads attacked become converted into a smutty, powdery mass composed of millions of spores. These spores are so small that 5,000 of them placed side by side would make a line but an inch long. These are scattered by the wind or in the handling of the grain and under suitable conditions develop a fungus thread which enters the plant and finally produces the smut again.

Oat Smut.—There is only one common smut on oats. It is very common throughout Ontario. It is noticed as soon as the oats begin to head. It attacks both the seeds and the chaff and reduces them to a dark brown powder resembling soot. These smut masses are familiar to all. They are usually blown away by the wind so that at harvest time little or no smut is noticed in the oats. The smut mass is composed of thousands of the spores which are scattered by the wind at flowering time and lodge upon the seeds to which they adhere. When the seeds are sown and germinate the spores also germinate and send out a little fungus thread which enters the young plant through the first leaf sheath. This is the only time that infection can take place.

Wheat Smuts.—There are two common kinds of wheat smuts, Stinking Smut or Bunt and Loose Smut. Stinking Smut or Bunt is the commoner and more objectionable kind. It attacks only the grains, causing them to become short, light and plump and filled with a black somewhat oily powder, which has an odor like decaying fish. The chaff is not destroyed though it becomes bleached and distended due to the swollen diseased grains within. The dark, ill-smelling powder in the diseased grains consists of numerous spores. These are dispersed among the sound grains during the threshing and the handling of the grain. Some of these spores adhere to the seed until it is sown and germinates when the spores also germinate and infection of the very young seedlings takes place.

Loose Smut of wheat is becoming more widely spread and more serious each year in Ontario. It destroys both the grain and the chaff, and reduces them to a dark brown powder which has no disagreeable odor. The spores are blown by the wind at flowering time to healthy heads of wheat. They reach the flowers and send out fungus threads which enter the ovaries through the stigmas, here they lie dormant in the ripened grain until it is sown and begins to sprout. Then the fungus threads grow with the young plant and produce the characteristic smut heads.

Loose Smut of Barley.—This smut is very similar to the Loose Smut of Wheat. It attacks both the grain and the chaff, but does not destroy the chaff so completely as does the Loose Smut of Wheat. Spore dispersal and infection are the same as with Loose Smut of Wheat, the organism wintering over as the fungus threads within the seeeds.

Different Smuts Require Different Treatment.—Many men are not aware of this important fact and use the same kind of treatment for all kinds of grain smuts. This results in failures and disappointments, and the condemning as useless of tested and proven methods of prevention. Oat Smut and Stinking Smut of Wheat can be prevented by the formalin treat-

ment, but Loose Smut of Wheat and Loose Smut of Barley cannot be prevented by the formalin method. The reason for this is found in the difference in the life histories of the fungi which cause Oat Smut and Stinking Smut of Wheat, and of the fungi which cause Loose Smut of Wheat and Loose Smut of Barley. In the case of the two former diseases the fungi winter over as the spores upon the seed, while in the two latter diseases the organisms pass the winter as fungus threads within the seeds. A solution of formalin readily reaches and destroys the spores upon the seed but cannot reach the fungus threads within the seeds, and hence is not effective in preventing Loose Smut of Wheat and Loose Smut of Barley.

Formalin Treatment for Oat Smut and Stinking Smut of Wheat.—Formalin provides the easiest, cheapest, safest and most effective means of preventing both the Stinking Smut of Wheat and Smut of Oats. Secure a one-pound bottle of formalin (one pound equals one pint) and mix with water in the proportion of one pound of formalin to forty-two gallons of water. Thirty gallons of water to twelve ounces of formalin makes a handy quantity to work with; thirty gallons of the solution will treat thirty bushels or more of wheat. Place the seed to be treated in a coarse sack, a bran sack is excellent for the purpose. Fill the sack about three parts full and immerse in the formalin solution for about twenty minutes. Then spread the seed out on a clean floor to dry.

Precaution to be Taken to Insure Success.

Great care must be taken to see that the treated seed is not reinfected with smut spores. Sacks, bins, implements, etc., used in handling smutted grain must also be disinfected. The sacks may be boiled or dipped in a strong formalin solution (1 pint to 10 gallons), and the seed drills should be cleaned and disinfected with formalin or air-slaked lime. The floor on which the grain is spread out to dry should be scrubbed with a strong solution of formalin.

If the seed wheat to be treated contains bunted grains "smut balls," they must be removed before treating the grain. This can be done by placing the grain about a bushel at a time in a tub of water. The smut balls, being light, will rise to the surface, and can be skimmed off.

Sow the seed as soon after treatment as possible. On no account allow it to sprout or mold, or to be frozen when swollen after treatment.

Experiments in the Prevention of Loose Smut of Oats and Stinking Smut of Wheat.

(Taken from the Annual Report of the Ontario Agricultural College, 1912.)

For five years in succession experiments have been conducted at the Ontario Agricultural College by Professor Zavitz for the Prevention of the Loose Smut in Oats and of the Stinking Smut in Winter Wheat. Careful determinations have been made each year to ascertain the comparative influence of the different treatments. There were in all seven treatments for oats and five treatments for wheat. In every instance one sample was left untreated as a basis of comparison. The experiment was conducted in duplicate both with oats and with wheat each year, there being

two varieties of each class of grain used for the experiment. The following treatments were used throughout, with the exception that numbers 3 and 6 were omitted from the treatments for the stinking smut in wheat:

(1) *Untreated.*—One sample of oats and one sample of winter wheat of each variety were left untreated in order that the influence of the various treatments might be observed.

(2) *Immersion in Hot Water.*—For this treatment the grain was placed in a bag, which was then immersed in water at about 115 degrees F. Soon afterwards it was placed in water which was kept at a temperature of between 130 degrees and 135 degrees F. The grain was occasionally stirred, and was allowed to remain in the water for a period of fifteen minutes. It was then spread out on a clean floor to dry, where it was occasionally stirred.

(3) *Immersion in Bluestone Solution for Five Minutes.*—For this treatment a strong solution was made by dissolving one pound of copper sulphate (bluestone) in one gallon of water and then immersing the oats in the solution for a period of five minutes.

(4) *Immersion in Bluestone Solution for Twelve Hours.*—In this treatment the bluestone solution was made by dissolving one pound of bluestone in twenty-five gallons of water, and the oats were immersed in this solution for a period of twelve hours.

(5) *Sprinkling with Bluestone Solution.*—The solution was made by dissolving one pound of bluestone in ten gallons of water, which was used for sprinkling over the oats until they were thoroughly moistened after being carefully stirred.

(6) *Immersion in Potassium Sulphide Solution.*—The potassium sulphide treatment consisted in soaking the seed for two hours in a solution made by dissolving eight pounds of potassium sulphide in fifty gallons of water.

(7) *Immersion in Diluted Formalin.*—The solution of formalin (formaldehyde) used for the immersion process was made by pouring one-half pint of the formalin into twenty-one gallons of water, and the seed oats were immersed in this solution and stirred occasionally for a period of twenty minutes.

(8) *Sprinkling with Diluted Formalin.*—One-half pint of formalin was poured into five gallons of water. The oats were then sprinkled with this solution and carefully stirred until the grain was thoroughly moistened.

After the treatments had been made for a few hours the grains were carefully sown in separate plots, each of which was exactly twenty-five links long by twenty-five links wide. When the winter wheat was about ready to cut it was carefully examined and the smutted heads were picked out and shelled. The rest of the crop was then threshed and again examined for the smut balls. When the oats were coming into head they were examined frequently and all smutted heads removed and carefully counted. The tables which follow give the average results in percentage of smutted grains of winter wheat and of smutted heads of oats in each of the five years during which each experiment was conducted. Besides this information, the average yield of oats per acre for the five years and the average yield of winter wheat per acre for three years are included.

TREATMENT OF OATS FOR SMUT.

Materials.	Percentage of smut.						Average yield of grain per acre 5 years.
	1st year test.	2nd year test.	3rd year test.	4th year test.	5th year test.	Av. of 5 years.	
							bush.
1. Untreated	5.5	3.9	11.6	4.3	3.4	5.7	60.3
2. Hot water	.0	.0	.0	.1	.0	.0	63.7
3. Bluestone—5 minutes	1.7	.9	.7	.6	.1	.8	58.5
4. Bluestone—12 hours	.6	.0	.0	.1	.0	.1	56.0
5. Bluestone—Sprinkled	.9	2.0	1.4	.6	1.6	1.3	61.8
6. Potassium Sulphide	3.4	.1	.3	1.5	.7	1.2	66.2
7. Formalin—Immersed	.0	.0	.0	.0	.0	.0	68.3
8. Formalin—Sprinkled	.0	.1	.0	.0	.0	.0	61.3

TREATMENT OF WINTER WHEAT FOR SMUT.

Materials.	Percentage of smut.						Average yield of grain per acre 3 years.
	1st year test.	2nd year test.	3rd year test.	4th year test.	5th year test.	Av. of 5 years.	
							bush.
Untreated	3.6	9.3	.6	.6	6.8	4.2	38.0
Hot water	.0	.0	.0	.0	.0	.0	40.6
Bluestone—12 hours	.0	.0	.0	.0	.0	.0	40.2
Bluestone—Sprinkled	.0	.2	.0	.0	.1	.1	41.1
Formalin—Immersed	.0	.0	.0	.0	.0	.0	43.3
Formalin—Sprinkled	.0	.0	.0	.0	.0	.0	36.3

The results of all the experiments show that the greatest yield of both winter wheat and oats per acre were produced from the grain which was immersed in a solution made by adding one pint of formalin to forty-two gallons of water for a period of twenty minutes. It will also be seen that this treatment was, in fact, the most effectual of all the treatments in completely preventing the trouble from the smut. Of the different bluestone treatments for smut in oats the most effectual was treatment No. 4, but that treatment, however, was not as satisfactory as the use of the formalin solution in which the grain was immersed. It will also be noticed that No. 3 and No. 4 treatments seem to injure the germination of the grain slightly; they thus reduce the yield per acre. It will also be noticed that the sprinkling with the formalin treatment reduced the yield of winter wheat per acre, the average being nearly two bushels per acre less than the crop produced from the untreated seed. The results of all these experiments go to show the excellent satisfaction which has been obtained by immersing both oats and winter wheat for twenty minutes in a solution made by mixing one pint of formalin with forty-two gallons of water. This treatment is easily applied, comparatively cheap, effectual in killing the smut spores, and also effectual in producing the largest average yield of both wheat and oats per acre of all the treatments used.

PREVENTION OF LOOSE SMUT OF WHEAT AND BARLEY.

These smuts cannot be prevented by treating the seed with formalin. The best way of preventing them is to secure seed wheat and barley from districts where

Loose Smuts are not prevalent. A modified hot water treatment gives good results, but requires too much time and labour to be practical under ordinary farm conditions. It might, however, be used to treat grain for a seed plot from which to obtain clean seed for next year's crop.

The following are the directions given by the United States Department of Agriculture for the hot water treatment to prevent Loose Smut of Wheat and Barley:

"The clean seed should be soaked for from five to seven hours in water at ordinary room temperature (63 to 72 degrees F.). It should be placed in small loose sacks or wire baskets containing not more than one-half peck each and drained for a short time. It is of the greatest importance that the seed be treated in small lots in order that all of the grain may be quickly and uniformly brought to the desired temperature. Two tubs or vats of water should be provided. In one tub (No. 2) the exact temperature required should be maintained. The other tub (No. 1) is used for bringing the grain to the temperature of the treatment, so as not to lower the temperature in tub No. 2. Galvanized iron tubs of 20 to 40 gallons capacity and kerosene or gasoline double-burner stoves are sufficient for treatment. The drained sacks or baskets of seed should be plunged into tub No. 1 for a minute, then transferred to tub No. 2, and kept agitated while immersed at temperatures and for the periods specified below, the temperatures mentioned being maintained as nearly as possible:

"For barley, 15 minutes at 125 degrees F.
For wheat, 10 minutes at 129 degrees F.

"In treating barley, if the temperature should rise above 126 degrees F. the time of immersion must be reduced to ten minutes at 127 degrees F., or five minutes at 129 degrees F. Above 129 degrees F. there is no safe margin. If the temperature falls slightly below 126 degrees F. time of treatment should be increased in proportion. A temperature lower than 124 degrees F. will not be effective. In treating wheat, if the temperature should rise above 129 degrees F. or fall below 126 degrees F. the time for immersion must be diminished or increased accordingly. Under no circumstances should a temperature of more than 131 degrees F. be allowed. Temperatures below 124 degrees F. are ineffective.

"Seed treated as indicated may be planted as soon as it is sufficiently dry to run freely through the drills. Allowance must then be made for the swollen seed and also for injury in treatment. The increase due to swollen seed can be estimated by measuring seed before and after treatment. The seed may be treated several months before seeding time and then dried quickly and thoroughly. In many cases the grain germinates as well or better when rested after treatment than if sown immediately. The seed may be dried by spreading it out in thin layers not over two inches in depth on a clean granary floor or on canvas, and shovelling or raking it from time to time. It must not be allowed to sprout."

Q.—Can you tell us how to stop the smut on corn?

A.—It cannot be controlled by either bluestone or formalin, and the only way to prevent it is by rotation of crops. It is advisable where it becomes bad not to grow corn on the same land year after year. Leave the land for four or five years without corn on it. In the case of a seed plot, it will pay you to go around and cut out the smutty corn and burn it.

Mr. L. H. Newman: In Sweden, the Farmers' Club just before seeding time take their seed to the cheese factory, where it is treated in one of the big vats with hot water for two or three cents a bushel. This treatment is very effective for

smut, and it is generally practised. At the Experimental Stations they have a simple devise for treating seed in large quantities; they treat all their seed in long tanks. The other system I mentioned can be practised in Ontario by simply taking the seed to the cheese factory, and then by having the water at the right temperature it can be easily treated.

FIVE YEARS' EXPERIENCE IN SEED IMPROVEMENT WORK.

(Paper prepared by Wm. Lewis, Dunsford, read by T. J. Shepley, Ouvry.)

In the spring of 1907 the Verulam Agricultural Society was among the ten societies allowed in the Field Grain Competition throughout the Province. Our society entered with oats. The same year I entered the Field Grain Competition with Siberian oats which I had procured from the Experimental Union a few years previous, and won first prize in our society; the field scored 96 points.

Upon the advice of Mr. T. G. Raynor I took up the work of seed selection in connection with the C.S.G.A., and made my first selection from the above-mentioned field, selecting such plants that excelled under ordinary conditions. I considered points in selection as follows: Trueness to type, stooling ability, strength of straw, evenness of maturity, symmetrical heads, plump grain, etc. I selected enough heads from the prize field to make seventeen pounds of seed, which planted half an acre the following spring of 1908. I also had enough hand selected seed left in the seed box after planting the half acre to seed two widths of the seeder across another field, which we sowed with a good fanning mill selection of the same variety. This was certainly a very convincing object lesson in favor of hand selection, yielding ten bushels per acre more than the common selection, with longer straws by three or four inches and larger heads.

Observations of 1911 and 1912.—These two seasons, directly opposing in conditions, brought home some very important lessons to the observant grain-grower. The prolonged drouth and extremely hot weather of June and July, 1911, scorched and burned many fields of grain in Victoria county, and made it a very difficult task to harvest many farms. The average yield of oats in our township would not be more than from twenty-five to thirty-five bushels per acre, with the weight of grain from twenty-eight to thirty-four pounds per measured bushel. The straw was very short, and varying in length from twelve to twenty inches. The barley crop was also a failure, the average yield not being over fifteen bushels per acre, with straw so short that very many fields had to be cut with a mower. However, with our Improved Siberian oats, we had a yield of forty-five bushels per acre, and the bushel, measured, weighed forty-five pounds; the average length of the straw was from twenty-eight to forty inches. And with O.A.C. No. 21 barley grown from selected seed we had a yield of forty bushels per acre; weight per measured bushel, forty-eight pounds; average length of straw, twenty-four to thirty-six inches. We also had ten acres of Mandscheuri barley, registered seed, purchased from D. Carmichael of West Lorne, the spring of 1910, which gave a yield of sixty bushels per acre. This barley was seeded on the 20th of May. It had an advantage over No. 21, as it received the benefit of a very heavy rain on July 15th, just after No. 21 was harvested.

The summer of 1912 had also its object lessons, being continuously wet from May 15th throughout a long tedious harvest. Many farmers of our county seeded their oats as late as June 12th and after, and where the land was in good condition bumper crops of straw were grown and a very large amount lodged. In other places the straw was broken weeks before maturity, and many farmers had to cut their oats with a mower or mower and pea harvester attachment. Here again the Improved Siberian Oats gave evidence of resistance, and produced straw which stood firm and strong for fully eight days after maturity. The field to which I allude was sown on June 11th, and grew a very heavy straw, fully five feet in length; yield of grain per acre, 40 bushels; oats rather light in weight per measured bushel, thirty-five pounds; harvested October 1st.

The fall of 1911 was my first experience with fall wheat. I purchased the seed from Mr. C. R. Gies, of Heidelberg, Ont., the product of eight years' selection, and it was a most excellent sample of Dawson's Golden Chaff fall wheat, and gave a yield of forty-five bushels per acre under not the most favorable conditions. It found a ready market with wholesale seed houses in Toronto at twenty cents per bushel over milling price. In my five years' experience as a grower of selected seed, I have never yet been able to supply the demand. I have had inquiries for carload lots from the United States and Ontario wholesale seed men which I could not consider, not being able to secure enough clean seed oats of any variety to make that amount. However, I had the pleasure of shipping seed to seven different States of the Union, and have shipped to different parts of Ontario, Quebec and Manitoba, also to Scotland. The price of oats during the past five years was eighty cents minimum and $1.25 maximum, according to demand and market fluctuation; barley from $1 to $1.50 per bushel. However, the remuneration of the grower of selected grain should not be grudged, as the work involves thoroughness, with the best of care and observation every season of the year. In the spring there is the treatment of seed as a preventive against smut and other fungus diseases, a thorough preparation of the seed bed, and seeding. The summer brings the work of weeding of noxious weeds and others that in some instances come to clean fields as thieves in the night, also the weeding of other varieties of grain. Then last, but not least, the selecting of enough heads to make sufficient seed for the following spring's seeding, also the housing of the grain so as to allow no mixing of varieties or other grains. Then comes the menace of the travelling threshing outfit through the community, which abounds with noxious weeds of all kinds. Winter is the time for preparing seed for the ensuing year, and also the cleaning and grading of seed to satisfy the demands of purchasers, and to do justice to the C.S.G.A. with pure integrity, which I believe is one of the most useful Associations of the Dominion Department of Agriculture, as its aims are the producing of better seed, which is the basis of better food for both human and animal life.

THE IMPROVEMENT OF HOED CROPS.

(Paper prepared by CHARLES PEARSE, of Wellington, Ont., read by A. S. MAYNARD, Chatham.)

I have prepared a few notes on my method of preparing the ground and planting potatoes. I like to get the ground fine and mellow to a good depth by plow, disk, cultivator and harrow. I take the corn marker and mark the ground both ways the same as for corn. Then I take the spring tooth cultivator (which is a Noxon) and remove all the teeth but four, these are placed close together in pairs far enough apart to make two furrows. These furrows are narrow in the bottom, and this makes the potatoes line up well for the cultivator. The soil in the bottom of the furrow is loose, and when the potato is dropped it seldom bounces. By stepping on each piece as it is dropped it is pressed in the mellow dirt, and by watching the cross marks made by the corn marker it is quite easy to have them as straight and easy to cultivate as corn.

In covering I use the spring tooth with all the teeth on except one in the centre. This fills one furrow each time and gives the ground an extra cultivating, leaving it quite level.

I like this way much better than the old one of marking with the plow and cultivating but one way.

It only requires about one-third of the usual amount of seed. The ground can be kept clean with much less expense, and practically all the ground is cultivated and more moisture retained, which is so desirable, especially in dry seasons.

MR. MAYNARD: Mr. Newman has asked me to make comments if I deem it necessary on this method of planting and cultivating potatoes, and I will give you my method of planting potatoes and preparing the soil and the cultivation of the same. I seek to have a good clover sod, and I manure it with from twelve to eighteen loads of good horse manure to the acre. I either fall plow it or plow it very early in the spring. We are growing early potatoes in our district, and by giving the ground a thorough cultivation as early as possible in the spring it enables us to plant in April. We start to plant on the 11th. We use a potato planter, planting one row at a time, placing the tubers from nine to fourteen inches apart and the rows twenty-eight inches apart. We take off the disk at the back and put on four or five links of chain and that follows the planter, and we are able to plant from four to six acres per day. Then it leaves the ground level, and about a week after that you can see it is a little lower where the row is, and we go over that with a light wooden harrow with the teeth slanting slightly back, and we repeat the harrowing on an average twice a week. We are not afraid of going both ways. The ground will not be hurt unless it is wet, but with us it is usually pretty dry, and we are able to go over it twice a week both ways. We continue that right along until the potatoes are two inches high, and we never do any harm to the potatoes. Just as soon as the row shows up we remove the two inside blades of the spring tooth cultivator and put on small teeth, and then you can work them within one inch of the plant and throw up a fine loose dirt.

We keep on cultivating just as long as it is possible for us to work the ground, and we have met with excellent results. Our ground retains the soil moisture, and it has proved a great success.

Mr. Harrold: What kind of fertilizer are you using for potatoes? Do you plow the manure into the furrow? In my experience it is better to plow the manure in before planting; I have better results in that way.

Mr. Maynard: I use no commercial fertilizer whatever. If I do not fall plow the manure under I would get the manure on the clover sod in the fall and plow it under in the spring; but I would not plow fresh manure down and plant the potatoes at once. I have known that where they put fresh manure on potato ground the potatoes have scabbed very badly where they came in contact with fresh manure, but it is not so bad where it is plowed down in the fall.

I am going to give you the experience of a man in the southern part of the township who was growing potatoes years before I was born, and he is growing them yet. He manures the ground in the fall and plows that manure under without a skimmer. He puts a good heavy coat on, and as it is laid over there is part of it sticking up out of the ridge, and he says that gives him better results than in any other way.

A Member: How far apart do you plant the potatoes, and how wide are the rows?

Mr. Maynard: Plant them fourteen inches apart; it takes about nine bags of cut potatoes to plant an acre in 28-inch rows.

A Member: I do not think a good clover sod with a lot of barnyard manure would require much of any other fertilizer.

Mr. Maynard: I have used a fertilizer sent by a fertilizer company to put on plots of potatoes, and I used it carefully and according to direction. I had a magnificent top where I used the fertilizer, but when I came to dig them I had four bags to the acre more where I did not use the fertilizer and where I had the clear manure only.

Mr. Hutchinson: I have done a great deal of work with fertilizers, and I have found that acid phosphate has given me the best result used in combination with barnyard manure. This past season I had a piece lying along the fence where the snow was deep, and I had not put any barnyard manure on it at all. I was trying a new combination of fertilizer ("Ten-five" they call it), ten of superphosphate and five of potash, and I had the best crop on that piece I ever had, and there was no barnyard manure used at all. I had an application of about 800 pounds to the acre of this Ten-five. There was no nitrogen, simply phosphate and potash, and the crop was far in advance of the rest of the field. I think it all depends on the soil. I do not think anybody can tell another man what fertilizer will gave him the best results, because you have got to try it first.

THE CHOICE OF FOUNDATION STOCK AND ITS IMPORTANCE.

(Papers prepared by Fred Foyston, Minesing, Ont.; read by A. Hutchinson, Mount Forest.)

We are pleased to give to the members of the C.S.G.A. and to all interested in the improvement of seed grain what little we have learned by personal experience in this interesting and important branch of agriculture. We remember in our early experience in farming that there was little or no attention given to the quality of seed grain, the only question asked was "Will it grow?" It was generally

thought that if the seed germinated, the soil and season would do the rest; but since the establishment of the O.A.C. and the Experimental Farms and the organization of the Experimental Union a new light has been shed on agriculture, and farmers everywhere are becoming interested in the improved seed movement and are anxious to put into practice the knowledge gained. The agricultural press has also done good work along this line by emphasizing the teaching of the professors and keeping them continually before the farming public. The result has been that a great improvement has taken place in the quality of the grain produced, and an increased demand for high-class seed. To supply this demand is the aim of our Association, and our chief reward is the knowledge that we are doing a patriotic work by increasing the prosperity of our country. Of our four principal grain crops, we grew this year 4,353,609 acres, which require about eight and a half million bushels of seed. From our experience in purchasing seed grain, probably one-third of this grain would be unfit for seeding purposes, for while probably 75 per cent of it would *grow* the plants would be lacking in vigour and the yield not what it should have been. In other words, 1,450,000 acres of this season's crop was sown with inferior seed, at a loss to our farmers and the country of at least 4,350,000 bushels in the total crop. When we consider these facts we must conclude that it is the next thing to a crime to be indifferent to the quality of the seed we sow, thus the great importance of the work of the C.S.G.A. has set itself to do, viz.: To supply our country with the best seed of the best varieties of the different classes of grain.

In choosing varieties to improve upon we need to consider six points: hardiness, productiveness, early maturing, quality of straw, freedom from rust, and in oats thinness of hull. In fall wheat we have seen nothing better than Dawson's Golden Chaff. The Experimental Union has proven the adaptability of this sort to almost every section of the Province, and although it is a soft wheat it is improving. Millers, however, need all we can raise for pastry and for blended flour.

The O.A.C. No. 21 occupies the first place in barley, and will likely keep it for some years to come. It needs, however, careful selection each year or it quickly deteriorates.

The O.A.C. No. 72 oat has had two years' trial under adverse conditions, and with us has made a splendid showing. It has been practically free from rust both years (when rust has been very prevalent). It is a heavy yielder, thin in the hull, and stands well. We consider it the best oat we have ever grown. By originating this oat Professor Zavitz has presented our country with what will prove worth many millions of dollars. From our experience with it I am satisfied that it will outyield other varieties by from five to fifteen bushels per acre. Think of what that would mean in our crop of 2,600,000 acres.

The pea crop is our most uncertain one, and its cultivation is on the decline; this is to be greatly regretted, as it is our most valuable crop from a stock feeding viewpoint, and also for its property of increasing the nitrogen supply in the soil. For these reasons we should make every effort to overcome these setbacks to its culture, the most important of which is a deficiency of humus in the soil. I have observed that wherever that abounds the growth is vigorous and it is but little effected by excessive wet or dry weather. This crop should follow a clover or other grass crop plowed *deeply* the previous fall. This hastens decomposition and provides better drainage, and also a freer circulation of air in the soil. Another mistake we make is in sowing too early. Excepting in the case of early maturing

varieties, we consider it a mistake to sow before the trees are coming out in leaf. By that time the waterline in the soil is lowered (the pea is a taprooted plant and strikes deeply in the soil), the temperature of the soil has risen, bacteria has become active, and all conditions have become favorable to healthy growth. If this rule was observed I feel confident that there would be less failures. Such soils may be expected to give a more vigorous germination. We advocate a liberal seeding, which gives an evener ripening. We do not harvest until thoroughly ripe, as cutting on the green side injures the vitality. In threshing with machine, thresh oats or barley after peas or fall wheat. This enables us to separate the grain in recleaning and so keep the sample pure, and it saves labor in weeding the growing crop. As a safeguard against an adverse season, we would hold over two bushels of seed, as we are satisfied that in such seasons there is a serious loss in the vitality of the grain produced. It is mostly in this way that varieties "run out."

In selecting from the standing crop, we choose a calm day and walk down the open furrows. This brings our point of vision nearly on a level with the heads. We select those that stand stiffly erect on the stalk, have a good, solid, even head which exhibits something in its appearance, which to the practised eye denotes vigor.

I wish to say in conclusion that it would be wise to put a moderate price on our seed grain; otherwise the majority will not buy, and we will defeat the end we have in view. A bargain consists in both parties being gainers in the deal. It is always a pleasure to have a satisfied customer.

ADDRESS.

C. E. Saunders, Ph.D., Dominion Cerealist, Ottawa.

While I was not expecting to be called on for any remarks, I cannot decline the very kind invitation which has been given me to say a few words to you.

A good deal of the work I have been doing at Ottawa has been on early wheats for the western country. This work was started by my father about twenty-five years ago, and some varieties were produced during the first few years which were extremely valuable, although not perfectly satisfactory From the material which was on hand when I was appointed I made a large number of careful selections, among which was the variety that I named Marquis. It was sent to Saskatchewan in 1907, and has been phenomenally successful there. It has been propagated with a rapidity that has certainly not been equalled before in the history of the world, and it is now replacing to a large extent every other variety of wheat in Saskatchewan, Alberta and Manitoba.

The remarkable achievements of Marquis are due not only to its splendid character, but to the condition of the minds of the farmers, who have been trained to appreciate the advantage of superior varieties of grain by the educational work which has been going on for twenty-five years or more in connection with the various Governments, Dominion and Provincial, and such organizations as this Association. Fifty years ago it would have been impossible for any variety of grain to advance as rapidly as Marquis wheat has done in Saskatchewan, or the O.A.C. No. 21 barley in Ontario.

Marquis wheat has made some splendid records. It has won first prize at two International Exhibitions (last year and this year). It has given several

exceptionally high yields, but all our previous records were surpassed this season by a yield at Indian Head of 81⅓ bushels per acre. This was on a 1/40 acre plot. The best field record for Marquis on our own farms is a little over 53 bushels to the acre on a field of several acres. There have been newspaper reports of higher yields than this elsewhere, but I cannot vouch for their accuracy. I have been unable to secure any confirmation of the reported yield of 76 bushels per acre on an eleven-acre field near Moose Jaw, Sask. Such a yield is extremely unlikely, but perhaps not impossible.

In Ontario and the East, Marquis has attracted a great deal of attention just now because the West has been talking about it. It has not done so remarkably well in Ontario, and I do not consider it more desirable than some other sorts for this Province.

Marquis is not early enough for some districts in the West, and I have lately introduced a new wheat under the name of Prelude, which ripens in Saskatchewan about two weeks ahead of Marquis and three weeks ahead of Red Fife. It can be depended on to be ready for cutting before the 21st of August; always a dangerous period in those districts, which are particularly liable to frost. Prelude is a very short growing, extraordinarily early wheat, which generally produces exceptionally hard kernels of very heavy weight per bushel. One can hardly grow a sample that will weigh less than sixty-two or sixty-three pounds to the bushel. The baking strength of the flour made from this wheat is very high.

Among the new early-ripening, cross-bred wheats which are now under preliminary test, we have a number of very interesting sorts. We grew an acre of one of these at Indian Head this year and obtained fifty-four and a half bushels of grain. The seed was of exceptionally fine appearance, and weighed 65 pounds to the measured bushel. I have about one hundred new varieties under study for the western country.

Less work is being done in other classes of grain, but we are securing some noteworthy results with peas and barley.

We have one pea called "Arthur," to which I should like to call your attention. It is a cross between the two old varieties, Mummy and Multiplier. It has proved the most productive of all varieties in most of our tests. It is the only early field pea that I know, though other sorts are claimed to be early. The flowers are carried chiefly at the top of the plant. In full bloom it is a beautiful sight. The pods are not remarkably large, but are numerous. The pea is round, yellow, and rather above medium size. Of course it can be split in threshing, but I do not think it splits more easily than any other large pea. It is good for use in soup.

I differ somewhat in opinion from Mr. Foyston with regard to prices of seed grain. I maintain that it is better for the farmer to pay a good price for his seed. At Ottawa it makes no difference to us personally whether we give away the seed or sell it, but we think it is better for the farmer to pay five or even ten dollars a bushel for exceptionally valuable seed, because he will take specially good care of it, and in the end will probably be better off than if the seed had been given to him. It is my firm conviction that you should charge for seed grain just what it is worth. (Applause.) It is not only better for the man who sells it, but better for the man who buys. Would a man value as highly a firstclass animal if it were given to him as if it cost him a thousand dollars? I think not, as a rule; and I believe that the same principle is applicable to seed grain.

PROGRESS IN HIGH CLASS SEED CORN, IMPROVEMENT IN WESTERN ONTARIO AND SOME PRACTICAL SUGGESTIONS AS TO HOW THE PRODUCT MAY BE HANDLED TO BETTER ADVANTAGE.

L. D. Hankinson, Grovesend.

There is no crop in the farm economy that is receiving so marked attention at the present time in South Western Ontario as is the production of seed corn. Nearly one-half the cultivated area in that district is devoted to the production of corn.

Until some four or five years ago, very little attention was given to the production of seed corn in these counties; corn was grown principally for one purpose—"to fatten hogs." Ontario depended largely, if not wholly, upon American corn for their seed purposes. A great deal of this seed was of varieties very unsuitable for our Ontario conditions, our season being some ten days shorter than in the American corn belt.

A few enterprising men were far-sighted enough to see a great future for these western and more protected counties. They came to the conclusion, that by the proper choice of varieties, and by properly acclimatizing those varieties, Western Ontario could produce seed corn more suitable for the ensilage growers of this Province than that furnished by our cousins across the border.

It was principally through the instrumentality of these men that our Ontario Corn Growers' Association originated. Through the medium of this organization it has been instilled in the minds of the Western Ontario farmers that they had in hand an opportunity, and that it was to their advantage to grasp it. And they have grasped it, with a vengeance, until now we have hundreds of farmers in Essex, Kent and Elgin Counties producing seed corn of the highest standard of perfection, and a substantial seed corn trade established.

Thousands of bushels of South-western Ontario seed corn are shipped annually to ensilage growers and farmers of greater Ontario. Dozens of seed corn growers ship each spring from 100 to 500 bushels of seed corn, while a few large corn men, who have made a specialty of the corn trade, ship by the thousands of bushels. That the corn supplied from this source is giving every satisfaction is indicated by the repeat orders sent to growers each year, and that the Dominion Experimental Farms, Ontario Agricultural College and the Macdonald College now use regularly seed grown in south-western Ontario.

While the enormous growth of the Canadian seed corn trade is possibly due to the efforts of the Ontario Corn Growers' Association, and the enterprise of the individual growers, we have the Canadian Seed Growers' Association greatly to thank for the improvement of varieties. A very few years ago varieties were practically unknown. Growers did make a distinction between dents and flints, but yellow dents and white dents were often grown from the same package of seed, and it all went as simply "ensilage corn." While now, through the combined efforts of this Association and those of the Ontario Corn Growers' Association, we have been able to establish several standard varieties and place them on the market as such. Now variety characteristics are becoming so marked and established, that a corn grower can as well distinguish an ear of Bailey corn from one of the Leaming variety as a stock man can distinguish one breed of cattle from another.

At the present time we have far too many varieties. The fact that corn crosses so easily has resulted in the development of numberless so-called varieties or strains, and it is impossible to affect any permanent improvement in any of these without first understanding the individual peculiarities and the good and bad points possessed by each. By complying with the rules of our Association, a systematic study of varieties has been brought about. By the ear to rows method of planting adopted by this Association, the weaker producing specimens of the variety are eliminated, those possessing the stronger character maintained and systematically improved.

As I said before, we have too many varieties, and too many undesirable varieties—varieties that are altogether unsuitable for the requirements of this Province. It is gratifying to know, however, that steps are already being taken to cut out some of the most undesirable of these. There is also too wide a variation in the type or strains of the leading varieties, due possibly to a great extent to cross-fertilization. Our Association guards against this to a certain extent by requiring seed plots to be planted at least 40 rods from corn of other varieties. This difficulty could be greatly overcome by localizing the growing of the different varieties, and by so doing certain districts would become famous for the production of certain corns with a standard of perfection. The low average yield of corn per acre graphically illustrates the necessity for improvement. There is no danger of our corn crop exceeding our needs, for the various uses to which it can be put multiply, out of proportion to the increase in yield, and acreage, per annum. While there is much uncultivated land that can be devoted to corn, it is true, the area devoted to it's growth must be kept in condition to raise maximum crops if the supply of seed is to be maintained at its present high level, not to speak of increasing it materially.

The improvement of seed corn crops along rational lines, so that the method can be adopted by every corn grower in Ontario, is a matter of serious importance to the future of our agriculture, and it is meet and proper that the best thought and energy of the present day and generation should be given to devising ways and means by which the most desirable results may be obtained.

This naturally leads us to consider how improvement may be effected. There are several methods by which this end may be achieved. The betterment of the physical condition of the soil, and the increase of the available plant food, will in themselves work wonders. These facts are familiar to all thoughtful individuals and need not be elaborated here. It is generally conceded that each individual variety or strain of corn has a limit of development beyond which it cannot be forced. Some means must be found, therefore, by which the producing qualities can be increased and this characteristic perpetuated and transmitted from one generation to another with unfailing regularity.

To accomplish this end work with individual plant must be taken. By study and observation it is possible to discover plants with superior merit. When these are found and the seed is selected and planted on special seed plot as recommended by our Association, and the corn breeder picking out the progeny of the choicest and most productive ears, year for year, much will be accomplished in the way of perpetuating and standardizing our leading varieties.

Investigation goes to show that the corn plant is quickly affected by environment and yields readily to selection; therefore the ways of improvement of our seed corn is open to all who make a systematic study of this important crop.

I have been asked for a few practical suggestions regarding the care and handling of this most important crop. In the first place seed corn should be allowed to become well matured on the stalk. By selecting the earliest maturing ears and picking them as soon as the husks turn yellow, which is commonly practised, earliness is secured at the expense of vitality. A slight frost will not injure corn for seed if well matured, and it is the last few days of the growing season that seem to put strength and vitality in the seed. Better to mark the early maturing plant and select the seed when the plants have become fully ripened, when the full strength of the plant has been given to the production of seed.

A great deal of choice seed corn is ruined year after year by improper handling and storing. When corn is taken from the shock it contains from 20 to 30 per cent. moisture, and unless this moisture is reduced before freezing weather sets in, the vitality of the seed is greatly reduced. Hence some artificial means is almost necessary to produce seed of highest quality. The means most practical to the average farmer are kiln or fire drying, and there is no better place than the kitchen, garret or some well ventilated room directly over a heated room or with heat within it. Corn may be suspended from the rafters or placed upon drying racks about the room. It has been my experience that corn cured in this manner and kept so that it will not take in moisture from the outside atmosphere before hard freezing weather sets in, shows up exceptionally well when tested for vitality

Far too much seed corn is stored in large cribs, and often in close bins, which is far worse. If seed must be placed in cribs, the moisture must either have left it naturally or must be expelled before being stored. At all events, cribs for storing seed corn should be narrow and well ventilated, and precautions should be taken to prevent snow or rain from driving into them. Roof should have wide eave protections, and the sides made with plenty of slope. The sides could be equipped with a curtain which could be let down during stormy weather to protect the seed from the drifting storm.

It is very important that seed corn should be tested for vitality before being placed on the market, and before planting. Last season owing to the peculiar, backward, wet fall, followed by a most severe winter, much corn of low vitality was upon the market. Another year such as last would give the seed corn trade of Western Ontario such a set back as would take years to regain. Last season's product from all outward appearances gave indication of being first-class seed, but the curing and housing in many cases had been at fault, while in more cases no systematic testing had been followed, consequently, many poor stands of corn were to be seen in Ontario this past season. The means lies within our power to prevent the occurrence of this again: let every grower of corn, whether he is catering to the seed business or growing for feeding purposes, equip himself with a test box, and test his seed before placing it upon the market or planting.

Our Association has already taken steps towards the inspection and labeling the registered seed of its members, and while this is a step in the right direction, it is not far reaching enough. There are hundreds of merchants or dealers, and, yes, farmers, handling seed corn without any inspection whatever, and I think it would be a move in the right direction on the part of our seed branch if the same rigid systematic inspection of seed corn was taken up as is followed in regards to our clover and grass seed.

WORK OF THE CANADIAN SEED GROWERS' ASSOCIATION IN WESTERN ONTARIO.

W. J. W. Lennox, Representative, Dominion Seed Branch for Western Ontario, Guelph.

There is no part of the work that is more interesting than the days when we can get out on the farms with the farmers and receive from them the conditions as they exist in the different localities, the work which they are carrying out and the new ideas which they have to put forward and the practical experience which they have to give us.

Western Ontario is my section, and my experience dates from the 1st of March, 1912. On entering Western Ontario, I found the Canadian Seed Growers' Association in excellent condition. Mr. Raynor who had charge of the whole Province previous to this spring was doing his very best to further the work of the Association and to help the farmers of the locality. I asked one corn grower in Western Ontario if he considered he was receiving any benefit from the Canadian Seed Growers' Association. "Why," he said "certainly"; an average of from 100 to 120 bushels of ears per acre was considered a very good yield before the Seed Growers' Association was started, but since he had practised corn selection and seed plot work, he found that in one case about 190 bushels of ears had been produced per acre. Now, I do not wish you to suppose this to be by any means the average, but there is a great difference between 120 and 190 bushels, and you can see that great benefits have been derived from the Canadian Seed Growers' Association, and that this Association is not only benefiting the members but the whole neighborhood.

Wherever you find a member of the Canadian Seed Growers' Assocition actively engaged in seed selection, you find the whole locality interested in what he is doing, particularly interested in the variety of corn he is producing and in the yield, and immediately they find that he has a superior variety they join the Association themselves or practise the same methods which he is employing.

I asked one other corn grower if he had received any benefit and he said: "Yes; I can see where I have increased my yield per acre not less than 10 per cent., and I find I have come in touch with men who are actively engaged in corn growing and they have taught me some lessons and I have gained much benefit from them." In barley, oats and wheat the same results have been attained. We have not had any active members in peas and only one active member in beans.

I asked a farmer if he thought it advisable for an average farmer on one or two hundred acres of land to hand-pick enough grain to sow a quarter of an acre plot the next year. I asked him if it would pay for him to go out and pay $2 a day to have this grain picked, and he said "certainly; I can pay $2 a day for as many days as necessary to have it picked, or pick it myself and have the other fellow do my work while I am selecting the grain, and I would consider it would pay me well, because I would gain experience in seed selection, and I would get a better price for my product when it is produced, and that is why I consider I am being well paid for seed selection."

We have more members in corn than in any other crop in the Counties of Essex, Kent, and Elgin and Lambton; we have many members who are actively engaged in corn selection. Some have withdrawn from the Association, but

generally the members of the Association are active members, and if you have seen the exhibition of corn that we have at this Show, you will be firmly convinced that good work is being done in corn selection in Western Ontario.

We have but few members in wheat. I do not know why that is the case, because wheat is just as easy to select and is as important as any other grain. We regret very much that we are losing one of our best members in wheat in the person of Mr. Gies, of Heidelberg, who has removed to Waterloo. He has an unbroken record of ten years in this work. He has sold wheat to many of our members who are growing it at the present time and we are now looking for a man to take his place. We hope we can find a man who will take his place and produce some really good wheat.

In oats we have quite a number of members in almost every county in Western Ontario, and we have more varieties of oats than any other grain, and we should try to eliminate some of them. Prof. Zavitz has given a list of a great many varieties of grain which have been tested at the College and by the Experimental Union, and from that report you can get an idea of the best oats to sow. My idea is that the best method for a farmer to find out the oat that is most suitable for him is to take a few of the varieties and test them on his own farm, and prove for himself which will give the best results. I know Professor Zavitz would be pleased to have the results of any such work.

We have not as many members in barley as we have in oats. The majority of our members are growing O. A. C. 21. That seems to have given most excellent results. In looking over plots, I find that O. A. C. 21 barley shows up very well. In one field of ten acres, we had to give it 95 points out of 100. I should have mentioned O. A. C. 72 oats; it is very hard to get this seed because it is such a favorite, but in another year we will be able to get more of it. This oat looks very promising; the straw seems very good and stands up well. In one field, the heads of the oats were at the tops of my arms, and I could have covered all that was lodged in the field by a stretch of my arms showing that it is going to be a good yielder and have a good strong straw.

Speaking particularly of peas, I took a trip through the Bruce Peninsula some few years ago and that gave me a particular interest in peas. The farmers there can produce peas of the very best quality. About six weeks ago, I made a trip to the peninsula in order to secure members for the Association, and I have been fortunate in securing fifteen new members. We believe they have at present a good variety of peas, but I think we can give them something better, and we want to test these varieties in that section. If we can give them something superior in peas, we will have a large number of members in that district.

We have very few members in potatoes, only something like ten, but each member is doing a lot of good work. We expect to have some new members next year, and I think in Western Ontario the Association has a very bright future. The reason it is going to succeed so well is because of the work that is being done by the present members. I have had the most pleasant summer I ever spent and I have enjoyed my work very much. I have determined that this Association is going to be very much stronger in the next year or two if I can possibly uphold my work in Western Ontario, and I know Mr. Raynor is going to uphold his in Eastern Ontario. I feel that we are going to have great results from the Seed Growers' Association throughout the Province.

WORK OF THE CANADIAN SEED GROWERS' ASSOCIATION IN EASTERN ONTARIO.

T. G. Raynor, Ottawa, Representative Dominion Seed Branch for Eastern Ontario.

It is always a pleasure for me to meet with the members of the Canadian Seed Growers' Association and those interested in seed problems. Seven years' experience in this work has given me quite a lot of insight into the possibilities of improving seed, and the effect it is having and will have on the crops of our Province. I quite agree with Mr. Lennox in saying that as yet we are only in the A, B, C's of this work. There is ample room for extension. We want to preach in season and out of season the gospel of good seed, and we have this opportunity at the Short Courses in seed and stock judging, where we are trying to bring before the farmers the advantages of selecting seed. We emphasize not only the fanning mill selection which you all know is very important, but we also emphasize the value of hand selection. When a man can buy pedigreed seed, it is something for a farmer to work up to.

I am glad that the Province has been divided and that we have Mr. Lennox in the west, and I can give more time to the east. If I were to confine my remarks to the experience I have had in the east, it would not take very long, because the majority of our members have always been west of Toronto. Quite a number of the farmers in the east have undertaken the work, but for various reasons have fallen out. However, a few have stuck to the work and are succeeding admirably and are very enthusiastic. The great drawback that we have is the difficulty that the farmers experience in securing efficient labor. The labor problem is the great trouble that the Association has met with. The requirements now are a little easier in that the farmer does not have to go out in the harvest time and make these selections, although we contend that is the way to get the best possible results. I believe that if the farmer could get 2½c. or 3c. a pound for the seed it would be a great incentive. We have not been able to do this until the last year or so. Part of this season has been spent in visiting farmers on the side lines and concessions and discussing the possibilities of improving their own seed and securing an enlarged market for their seed.

One man in Eastern Ontario has been at this work for a number of years in Banner oats, which is the standard oat for the eastern part of the province, and this man had something like 3,000 bushels of crop and about 800 bushels when it was ready for market. He received a dollar a bushel for all that he had, but unfortunately part of this man's experience is that he had neglected to eliminate all the barley from the seed and there was a certain amount of barley in the seed that was distributed, a sufficient amount to make it show up wherever it was sown. Of course every man who bought his seed was advised of just the amount of barley kernels that would appear to the pound, so that the farmers bought the seed with their eyes wide open. I visited a locality where a Farmers' Club was organized, and where they had a District Representative, and he got busy in inducing the farmers in that locality to secure some of this seed for their field crop competition. They secured a large amount of this seed in that neighbourhood, and I found as I visited their plots the barley was showing up, and we had to advise them that there was too much barley to make it a profitable seed to put on the market and that they would have to weed the barley out, and then they would have pedigreed seed that would pass inspection.

Another unfortunate part of the work is that parts of our Province are infested with weeds, such as wild oats and mustard, and it is pretty hard to get a district where large quantities of seed can be grown so that it can be shipped out in car load lots. Essex and Kent have already succeeded in solving that problem because they have gone into corn and made a specialty of it. They are producing large quantities of pedigreed seed for market, and they are reaping a great reward.

In the other grains, we have not been able to locate enough members in one district to take up the work so as to be able to ship the different grains in large quantities. It is my observation that there are some parts of our Province pretty well adapted for growing barley; other parts are well adapted for growing peas, and other parts for growing oats, but when we have a season like the one we have just passed through, we get a knock-out blow in our work. A season like the one we have just had rather demonstrates the fact that it is a little better to have our members divided all over the country, and have a man here and there improving barley, oats, wheat, and peas, and the crops that will grow in this particular locality.

In Eastern Ontario they are later by a week or ten days than in the Western part, and the farmers cannot get on their land to do their work as early as they can there. This year the majority of the farmers let the seeding time pass by, hoping that the land would get a little drier and that the balmy days would come when the soil would work up; but the heavy rains came on and they had to put off their seeding operations until some of them were seeding as late as the first of July. It seems that barley has a certain season in which to develop and come to maturity and it all gets ripe at the same time, but this year in Eastern Ontario we had exceptions to this rule, because barley sown as late as the middle of June to the 1st of July grew rank and strong and filled out and was a good crop for those who were able to harvest it.

There is no question in my mind that, just as live stock has been improved through a system of selection and by looking after the little details and in the proper mating of the animals, so our seed can be improved.

It is to be regretted that we are losing Mr. Gies, because he has done a lot of good work. I would like to emphasize a point as to farmers starting in with new varieties that have been advertised in some of our seed catalogues as being panacea for all our seed ills. We have spread ourselves over too many varieties in the past and we should, by co-operating through our Experimental Stations and through observations of our most practical farmers, try to reduce the number of varieties and then try to improve those varieties as much as possible. The Experimental Stations are doing good work and are adding thousands of dollars to the pockets of the farmers by improving our farm crops. The men who have taken this work up in connection with the Canadian Seed Growers' Association have succeeded in developing this strain that Prof. Zavitz sent out as O.A.C. No. 21, and then Professor Zavitz will bring out another kind of barley, and he puts that on the market, and they think it will be a little better and they wonder if it would not be advisable to drop the first variety and start with the other. It has often occurred to me that it would be a good thing to eliminate a large number of the varieties that are already being grown over the province and centralize our efforts upon a few that a large number of practical men have found to succeed.

In all our work this year, the potato crop of Eastern Ontario seemed to give promise of the very best results. In some localities they suffered from that de-

vastation that has swept over the country and which left more potatoes on the ground than it put in the bins and cellars, and that fact, I think, goes to show that we should try to find localities which are best adapted for the growing of certain kinds of crops and then make a specialty of that crop in that locality.

We are in a good work and it is part of my business to give the very best information I know how to the farmers, and that is what I am endeavoring to do. I shall endeavor to work up the Eastern part the same as I did the West, and Mr. Lennox and I will work in harmony and in close co-operation. Any assistance we receive from the farmers will be appreciated, and if you have any seed grain for sale, if you refer to us for a market, we shall endeavor to secure one for you in order that you will be able to get the very best results. Let us stay with this work and do it thoroughly and effectively, and put up the goods in an honest way and have them speak for themselves. If we do that, there is no question in my mind about the success of the future in improved seed in our Province.

MR. HUTCHINSON: Mr. Raynor spoke about the advisability of growing enough seed in a certain locality so as to ship in car load lots. The railway companies give a rebate when you ship pedigreed live stock, and I think it would be reasonable for them to give a rebate when we ship pedigreed seed. It would be to their interest to do so exactly in the same way that it is their interest to give a rebate on live stock so as to have better stock in the country. I do not know of anything that would increase their traffic quicker than to increase our grain crops.

A MEMBER: I quite agree with Mr. Hutchinson. In Germany they carry seed grain 50 per cent. cheaper than the regular rate. It is to the interest of the railway companies that the farmers improve their seed; there is no better way of increasing the freight of the railway, and I think the Committee on Resolutions should draft a resolution to that effect.

MR. SHEPLEY: I would like to move the following resolution :—"That we, as members of this Association, pass a resolution of appreciation of the kindness and courtesy that we have received from our Secretary, Mr. Newman, and the officers of the Seed Branch, Mr. Raynor and Mr. Lennox, during the year that is passed." We have had a great deal of benefit from them and I think we should show our appreciation by passing this resolution.

MR. COATSWORTH: Will you permit me to second that resolution. I was just thinking that a few years ago when I was engaged in the Farmers' Institutes we had one of a delegation that visited our section of the country. He came from Ottawa and his subject was "Seed Corn Selection," and I thought at the time, "Why should a man come from Ottawa to the County of Essex to tell us how to grow corn?" But he did come, and he told us some things that we did not know before. I largely attribute to that delegation the farmers going into the selection of seed corn and making the improvements they have made. The man who told us these things was our worthy secretary, Mr. Newman, and I think he has done a lot of important work during the past years. The motion was carried with applause.

THE CHAIRMAN: Mr. Newman, Mr. Raynor and Mr. Lennox, the thanks of this Association are tendered to you for your past work, and I know that the members are looking for good things in the future.

MR. NEWMAN: On behalf of myself, and I feel that I can speak on behalf of the others, I must say that I heartily appreciate the words of this resolution. It has always been a great pleasure to work with the members of this Association.

It has been practically my life work for the past twelve years, and I have taken a great deal of pleasure out of it. Some of the best information I have been able to secure has come from members of this Association.

I think the point that was mentioned to-night as to getting cheaper freight rates for seed grain is a very important one. In Western Canada we already get half rates from the 15th of January until the 1st of May, and I see no reason why we should not get this in the eastern part of Canada. I think it only requires going after, and I think it would be a good idea if the Chairman of the Resolution Committee would include this in his resolutions.

Mr. Harrold: Would it be possible to get a description of all the leading varieties of agricultural plants? Prof. Zavitz spoke this afternoon about the Yellow Leviathan Mangel. He said he got seeds from two seedsmen and they were quite different. I think the Seed Growers' Association should try to get a standard for all the different varieties of mangels and other varieties of root and grain crops, and the members of this Association should know the different varieties. No man can start to improve the Banner oat until he knows what the Banner oat is.

The Chairman: Mr. Harrold has thrown out a good suggestion, and I think the time has come when it will be necessary to standardize our seeds to some extent. The annual meeting is in the middle of February, and our Experimental Union is on the 7th and 8th of January. I hope you will all come to the Experimental Union and to the meeting at Ottawa.

Mr. Raynor: It is a good thing for the members of the Association to avail themselves of getting their seed before the public at the different exhibitions. Ottawa will have a Winter Fair, the third week in January, and we will see that each member of the Association will receive a copy of the Prize List.

Mr. Shepley: I move the following resolution: "Resolved that this Association places itself on record as favoring the taking of some definite action towards securing cheaper transportation rates on registered seed and potatoes in Ontario and Eastern Canada." The motion was seconded by Mr. Hunter and carried.

Eastern Ontario Live Stock and Poultry Show

ANNUAL MEETING.

The annual meeting of the Eastern Ontario Live Stock and Poultry Show was held in the Grand Union Hotel, Ottawa, on September 10th, 1913, at 11.30 a.m.

There were present: Messrs. P. White, J. Bright, J. W. Allison, A. P. Westervelt, R. W. Wade, W. A. Wallace, J. C. Stewart, J. Smith, Geo. Robertson, J. Belford, J. H. Grisdale, W. F. Garland, Geo. Higman, and the Secretary.

Moved by J. W. Allison, and seconded by J. C. Stewart, "That as the minutes of the last annual meeting have been printed in the report of the Live Stock Associations, they be taken as read and adopted." Carried.

REPORT OF EXECUTIVE COMMITTEE TO THE BOARD OF DIRECTORS ON THE SHOW OF 1912.

The characteristic growth of the Eastern Show was again noticeable at the 1913 Show, not only from the point of attendance, but also in the horse and cattle departments. The new addition to Howick Hall was filled with the exception of the new dairy cattle stable, thus relieving the congestion which previously existed in all departments. By not requiring the temporary stalls in the passages, the comfort of visitors and convenience to exhibitors was greatly added to.

Improvements.—Previous to the 1913 show a new wing was added to Howick Hall, greatly increasing the acccommodation in the dairy, cattle, horse and poultry departments. The new wing was erected at the cost of $20,000, and provided extra accommodation for approximately 75 head of cattle, 50 horses and greatly increased accommodation for poultry. Sleeping quarters were also provided for attendants, fitted up with a modern and well equipped wash-room and lavatory. A new killing room was also built, filling a long-felt want, and the space previously taken up by the killing-room was filled in with sheep pens. Improvements to the poultry department were made by building a broad stairway from the main arena directly to this department. The plank floor in the main building being very unsafe, a cement floor was put in just before the last show, thus making all the buildings very complete, except in the killing room where there is need for a windlass to raise the beef carcasses.

COMPARATIVE STATEMENT OF ENTRIES AND PRIZES, EASTERN SHOW, 1912-1913.

	No. of Entries.		Prizes offered.		Prizes paid.	
	1912	1913	1912	1913	1912	1913
Horses:			$	$	$	$
Clydesdale Stallions	38	22	575	575	545	500
Canadian-bred Clydesdale Stallions	27	46	470	470	410	470
Clydesdale Mares	24	22	235	235	205	160
Canadian-bred Clydesdale Mares	20	18	260	260	215	190
Shires	.....	2	120	120	.....	25
Percherons	.....	2	.....	115	.....	45
Hackneys	20	12	480	430	440	300
Standard-breds	3	10	215	215	85	145
Thoroughbreds	3	4	155	155	60	105
Hunters	13	13	120	120	60	115
Ponies	4	7	60	60	30	45
Heavy Draughts	7	25	195	195	135	195
Specials	.....	.....	135	80	135	75
Total	159	183	3,020	3,030	2,320	2,370
Beef Cattle:						
Shorthorns	30	25	375	375	350	375
Herefords	10	10	180	180	160	160
Aberdeen-Angus and Galloways	8	7	100	100	65	80
Grades and Crosses	33	32	430	430	420	420
Pure-breds, Grades or Crosses (amateurs)	2	7	275	275	35	70
Dressed Carcasses	7	11	85	85	85	80
Export Steers	7	8	180	180	180	180
Specials	.....	.....	60	60	60	60
Total	97	100	1,685	1,685	1,355	1,425
Dairy Cattle:						
Ayrshires	34	22	265	365	265	355
Holsteins	21	26	315	615	285	570
Shorthorns	9	5	165	165	115	50
Jerseys and Guernseys	2	.....	165	165	40	.....
Grades	17	13	165	165	150	145
Specials	.....	.....	168	165	168	.....
Total	83	66	1,343	1,640	1,023	1,120
Sheep:						
Cotswolds	32	19	89	89	89	89
Lincolns	20	21	89	89	89	89
Leicesters	23	15	89	89	89	89
Oxfords	18	17	89	89	78	89
Shropshires	25	19	89	89	89	89
Southdowns	15	24	89	89	83	89
Dorset Horns	10	11	89	89	72	73
Hampshires and Suffolks	20	7	74	74	74	54
Grades and Crosses	80	75	178	178	178	178
Specials	.....	.....	10	.....	10	.....
Total	243	208	885	875	851	839
Swine:						
Yorkshires	28	36	113	140	111	137
Berkshires	26	17	114	114	114	106
Tamworths	16	17	93	93	78	76
Grades and Crosses	32	43	93	93	93	94
Export Bacon Hogs (Alive)	31	17	185	172.50	185	172.50
Export Bacon Hogs (Dressed)	30	17	185	172.50	185	172.50
Specials	.....	.....	20	25	20	25
Total	163	147	803	810	786	783

	No. of Entries.		Prizes offered.		Prizes paid.	
	1912	1913	1912	1913	1912	1913
			$	$	$	$
Seeds	101	88	198	198	186	165
Poultry :						
Large Fowls	1,539	1,197	.....	.....	1,159 50	1,018 50
Bantams	135	186	.....	.....	192 50	194 50
Turkeys, Geese and Ducks	149	191	.....	.....	227 00	244 00
Pens	65	57	.....	.....	71 00	116 00
Pigeons and Pet Stock	353	434	.....	.....	195 25	189 70
Sale Class	262	202	.....	.....	75 50	77 00
Dressed Poultry	59	49	.....	.....	121 00	72 00
Totals	2,562	2,316	.....	.....	2,041 75	1,909 70
Grand totals	3,408	3,108	.....	.....	8,562 75	8,611 70

ATTENDANCE.—The attendance at the last Show showed a very marked increase over previous years. The privilege of free admissions to Farmers' Institute members was continued, and has become so generally known that the attendance of Institute members was very large. Nine Institutes affiliated with the Show, their fees amounting to $125.00. The total gate receipts were $1,301.70 as compared with $1,028.95 for 1912.

GRANTS.—The grants made by the various Live Stock Associations compared with 1912 were as follows:

	1912.	1913.
Canadian Clydesdale Association	$1,000 00	$1,000 00
Ontario Horse Breeders' Association	100 00	.....
Hackney Horse Society	80 00	50 00
Dominion Shorthorn Breeders' Association	175 00	175 00
Canadian Hereford Breeders' Association	50 00	50 00
Ayrshire Breeders' Association	100 00	194 50
Holstein Breeders' Association	210 00	463 50
Yorkshire Breeders' Association	50 00	75 00
Berkshire Breeders' Association	50 00	50 00
Dominion Swine Breeders' Association	50 00	50 00
Total	$1,865 00	$2,108 00

The grants from these Associations tends to improve the exhibits of the various breeds benefited. The Legislative grant of $8,500.00 was the same as for 1912. A grant of $200.00 was received from the Corporation of Ottawa, also a grant of $25.00 from the County of Renfrew.

FINANCES.—The following financial statement shows the cash on hand has been decreased from $502.94 to $113.08. Owing to the delay in getting some of the grants a number of accounts were unpaid until after the close of the year. The increased expenditure was due to the increased expense in connection with the last show, caused by the increased amount of labor, fuel, lights, etc., required in connection with the additions to the buildings.

FINANCIAL STATEMENT.

Of the Eastern Ontario Live Stock and Poultry Show for the year ending March 31, 1913.

Receipts.

Cash on hand as per last Report	$502 94
Legislative grant	8,500 00
Building grant	10,000 00
Hackney Horse Society, grant, 1912	80 00
Canadian Hereford Breeders' Association, grant	50 00
Holstein-Friesian Breeders' Association, grant	463 50
Ayrshire Breeders' Association, grant	194 50
Yorkshire Breeders' Association, grant	75 00
Berkshire Breeders' Association, grant	50 00
Dominion Swine Breeders' Association, grant	50 00
Renfrew County, grant	25 00
Sale of Catalogues	44 85
Corporation of Ottawa, grant	200 00
Gate Receipts and Farmers' Institute Fees	1,396 70
Entry Fees	1,874 70
Advertising in Prize List and Space in Building	98 00
Sale of Carcasses and Birds	777 29
Live Stock Specials	20 00
Poultry Specials	35 00
Membership Fees	8 00
Prize Money Refunded	9 50
	$24,454 98

Expenditures.

Director's Expenses	$396 05
Postage	127 80
Stationery and Printing	358 25
Advertising	376 16
Office and Office Help	213 98
Telephone, Telegraph, Express, etc.	77 47
Judges, Judges' Clerks and Lectures	563 45
General Help	1,176 44
Music	136 00
Fuel	234 75
Fitting Building	170 31
Straw, Shavings and Poultry Feed	328 85
Block Test	78 75
Dairy Test	145 50
Lunch Room	32 55
Insurance	22 50
Prize Money Paid Out	8,611 70
Building Grant	10,000 00
Freight Refunded to Exhibitors	309 55
Refund Entry Fees	7 25
Sale Birds and Carcasses	777 27
Miscellaneous	7 35
Badges	199 97
	$24,341 90
Balance cash on hand	113 08
	$24,454 98

All of which is respectfully submitted.
Signed on behalf of the Executive Committee,

PETER WHITE,
President.

JOHN BRIGHT,
Vice-President.

Examined and found correct,
this 9th day of Sept., 1913.
GEO. L. BLATCH, F.C.A.,
Auditor.

Moved by Mr. J. W. Allison, seconded by Mr. W. F. Garland, "That the Report of the Executive Committee be received and adopted." Carried.

OFFICERS FOR 1913.

Honorary President ..... Peter White, Pembroke.
President ..... John Bright, Ottawa.
Vice-President ..... J. W. Allison, Morrisburg.
General Director ..... R. W. Wade, Toronto.
Secretary-Treasurer ..... W. D. Jackson, Carp.

Directors.

John Bright, Myrtle.
Peter White, Pembroke.
Wm. Smith, M.P., Columbus.
Adam Scharf, Cumming's Bridge.
J. W. Allison, Morrisburg.
Robert Graham, Bedford Park.
J. H. Grisdale, Ottawa.
W. F. Stephen, Huntington, Que.
John Gardhouse, Highfield.
Jas. Bryson, Brysonville, Que.
J. B. Ferguson, Renfrew.
W. A. Wallace, Kars.
J. E. Cousins, Harriston.
S. Dolson, Norval Station.
R. A. Heron, Billing's Bridge.
J. C. Stewart, Dalmeny.
R. O. Morrow, Hilton.
Geo. Robertson, Ottawa.
Geo. Higman, Sr., Ottawa.
John Belford, Ottawa.
W. F. Garland, M.P., Hintonburg.

Committees:

Executive Committee: The President; The Vice-President; R. W. Wade; Peter White; J. H. Grisdale; Geo. Robertson.

Committee on Horses: J. W. Allison, (Chairman), Morrisburg; Wm. Smith, Columbus; Robert Graham, Bedford Park; Adam Scharf, Cumming's Bridge; Bower Henry, Bell's Corners; C. W. McLean.

Committee on Beef Cattle: J. H. Grisdale, (Chairman), Ottawa; Peter White, Pembroke; W. F. Stephen, Huntington, Que.; John Gardhouse, Highfield; W. A. Wallace, Kars; J. Smith.

Committee on Sheep: J. B. Ferguson, (Chairman), Renfrew; Jas. Bryson, Brysonville, Que.; W. A. Wallace, Kars; J. E. Cousins, Harriston; R. Richardson, South March; Geo. R. Bradley, Carsonby.

Committee on Swine: J. C. Stewart, Dalmeny; S. Dolson, Norval Station; R. A. Heron, Billing's Bridge; R. C. Morrow, Harriston; A. Dynes, Ottawa; D. Barr, Renfrew.

Committee on Dairy Cattle: W. F. Stephen, Huntington, Que.; E. S. Archibald, Experimental Farm, Ottawa; R. A. Heron, Billing's Bridge; N. Sangster, Ormstown, Que.; T. A. Spratt, Billing's Bridge; J. Graham, Bell's Corners; A. C. Hardy, Brockville.

Committee on Poultry: Geo. Robertson, Ottawa; John A. Belford, Ottawa; W. F. Carland, Ottawa; Geo. Higman, Sr., Ottawa; G. H. A. Collins, Ottawa.

Committee on Seeds: T. G. Raynor, Ottawa; Geo. Boyce, Merivale; L. H. Newman, Ottawa; A. H. Foster, Twin Elm; R. H. Grant, Hazeldean.

Committee on Lectures: R. W. Wade, Toronto.

Reception Committee: John Bright, Ottawa; Peter White, Pembroke; His Worship the Mayor of Ottawa; A. E. Fripp, M.P., Ottawa; J. L. Chabot, M.P., Ottawa; N. Champagne, M.P.P., Ottawa; Geo. May, Ottawa; J. L. McDougall, Ottawa; J. K. Paisley, Ottawa; J. A. Belford, Ottawa; E. S. Skead, Ottawa; J. H. Grisdale, Ottawa; W. F. Garland, Ottawa.

Moved by MR. WHITE, and seconded by MR. STEWART, "That the Superintendents be appointed by the Executive Committee." Carried.

Moved by MR. WHITE, seconded by MR. STEWART, "That the Show be held on January 20th to 24th, 1914." Carried.

Moved by MR. STEWART, and seconded by MR. WHITE, "That the President, Mr. Garland, Mr. Robertson and Mr. Belford, be a committee to solicit special prizes for the prize list and to interview the various County Councils and request grants, with power to call for assistance of the various committees." Carried.

Moved by MR. WHITE, and seconded by MR. GARLAND, "That the appointment of judges be left to the Executive Committee, and that the one man judge system be followed throughout the show." Carried.

Moved by MR. STEWART, and seconded by MR. WHITE, "That Institute members upon presentation of Institute membership ticket and the payment of 25 cents will be given an Institute member's pass to the Show. The affiliation fee system to remain in force, and that the various Institutes be notified that the system will discontinue after the 1914 Show." Carried.

Moved by MR. WHITE, seconded by MR. STEWART, "That Mr. Geo. L. Blatch, be appointed auditor." Carried.

Moved by MR. WHITE, and seconded by MR. ALLISON, "That the appointment of a Secretary and arrangements regarding his salary be left to the Executive." Carried.

Moved by MR. WHITE, and seconded by MR. ALLISON, "That all matters not arranged at this meeting and all other matters be left to the Executive Committee with power to act." Carried.

Moved by MR. GRISDALE, and seconded by MR. ROBERTSON, "That this Board of Directors of the Eastern Ontario Live Stock and Poultry Show regret that Mr. Peter White finds it necessary to retire from the presidency of this Association, but inasmuch as he has decided that he must retire, we the Directors of this Show do further wish to extend to Mr. White and do hereby tender him our most sincere thanks for the several years of most efficient work he had devoted so untiringly to the upbuilding of this our Eastern Ontario Live Stock and Poultry Show, which may now be said to be in good standing and of good repute." Carried.

Moved by MR. WHITE and seconded by MR. GARLAND, "That the thanks of this Association be tendered to Mr. Westervelt, who is retiring at this time as a member of the Executive, and that the Board of Directors desires to record formally an appreciation of the very valuable services which Mr. Westervelt has brought with him as a member of the Executive Committee." Carried.

Moved by MR. WHITE, and seconded by MR. ALLISON, "That this Association extend a hearty welcome to Mr. Wade as a member of the Executive Board." Carried.

Moved by MR. WHITE, and seconded by MR. ALLISON, "That an honorarium of one hundred dollars be given to Mr. Westervelt in appreciation of his services on the Executive board." Carried.

The meeting then adjourned.

REPORT

OF THE

Stallion Enrolment Board

OF

ONTARIO

1913

(Appendix to the Report of the Live Stock Associations)

(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE, TORONTO)

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THE LEGISLATIVE ASSEMBLY OF ONTARIO

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Ontario Stallion Enrolment Board

Chairman—JOHN BRIGHT,
Myrtle Station, Ont.

PETER WHITE, K.C.,
Pembroke, Ont.

F. C. GRENSIDE, V.S.,
Guelph, Ont.

LT.-COL. ROBERT MCEWEN,
Byron, Ont.

Secretary—R. W. WADE,
Parliament Buildings,
Toronto, Ont.

First Annual Report
OF THE
Stallion Enrolment Board of Ontario

HISTORY OF THE MOVEMENT FOR THE ENACTMENT OF STALLION REGISTRATION IN ONTARIO.

In 1906 there was an investigation by a Commission appointed by the Ontario Minister of Agriculture into conditions affecting the horse industry. This commission reported 893 grade stallions and 169 pure-bred stallions unsound. The number of pure-bred stallions sound were 1,615. The total number of stallions in the province is reported as 2,687. This makes 40 per cent of the stallions in use in Ontario either grade stallions or unsound stallions, or both.

Following this report, the question was discussed by the directors of the Ontario Horse Breeders' Association and recommendations made. These recommendations were discussed at meetings at the Winter Fairs at Guelph and at Ottawa, and were approved.

These recommendations were:

(1) That there should be restrictions placed on the use of stallions.

(2) That only pure-bred or registered stallions should be allowed to stand for service, except:

(*a*) Owing to one-third of the stallions in the Province being found by the Inspectors to be unregistered, that for three years grade stallions known to be good sires, and upon inspection found to be of good conformation and free from hereditary unsoundness, should be granted a license to be known as " Class 2."

(3) That all stallions standing for service should be free from hereditary unsoundness.

(4) That no horse having any of the following diseases should be given a license: Bone Spavin, Curby Malformation of the Hock, Boggy Malformation of the Hock, Ring Bone, String Halt.

(5) That all stallions standing for service should reasonably comply with the standard of conformation for the breed which they represent.

(6) That stallions should be inspected, and that those complying with the above requirements, except those provided for in Section (*a*) of resolution 2, should be given a license to be known as "Class 1."

(7) That there should be three inspectors for each district appointed by the Government. If the three inspectors are unanimously in favor of refusing a license

there should be no right of appeal against their decision. But in case the inspectors should not be unanimous the stallion owner should have the right to appeal from their decision and to have an inspection by a board of appeal appointed by the Government for that purpose.

(8) That all inspection should be made between October 15th and March 15th of each year, and that all licenses should be good for one year from the 15th of March following the date of inspection.

(9) That no person should be allowed to accept a service fee for any stallion unless a license had been taken out for such stallion.

(10) That all printed matter advertising any stallion should include a copy of the license certificate issued for each stallion.

(11) That the license fee should be $10.00, out of which the expenses of the inspection should be paid, and that the surplus collected from each county should be returned to the county, to be used for the encouragement of Spring Horse Shows, no more than two of which should be held in any electoral district.

(12) That local horse show associations should be encouraged in each county; that the spring horse shows should be held under the management of these associations, and that these associations should be affiliated with the Ontario Horse Breeders' Association.

(13) That educational meetings should be held in connection with the spring horse shows held in each county, by arranging to have special lectures on practical subjects relating to the horse industry.

That as a beginning good results might be obtained by the enactment of a law somewhat less stringent in its provisions. The result was the introduction of the bill which subsequently became law on August 1st, 1912.

The principle provided for in the bill is that the owners of stallions should advertise by a plain statement of fact in plain type that a stallion is a pure-bred or that it is a grade, and that this statement should be in accordance with a certificate issued by a competent Board as to whether the stallion is a pure-bred stallion or is a grade. In addition, provision was made that a stallion, if desired, could be inspected by a committee of experts, and would then be given a certificate in accordance with the facts found.

THE ONTARIO STALLION ACT

HIS MAJESTY, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows:—

1. This Act may be cited as *The Ontario Stallion Act.*

2. For the purpose of this Act

(1) The Lieutenant-Governor in Council upon the recommendation of the Minister of Agriculture shall appoint four persons who, with the Director of the Live Stock Branch of the Department of Agriculture, shall constitute The Stallion Enrolment Board, hereinafter called "The Board."

(2) The Director of the Live Stock Branch of the Department of Agriculture shall be the Secretary and Executive Officer of the Board.

3. The Minister of Agriculture may from time to time appoint competent persons to act as inspectors under the direction of the Board and every inspection shall be made by a committee hereinafter called "The Committee," consisting of three such persons.

4. The appointed members of the Board and the members of the Committees shall receive such per diem remuneration and allowance for necessary travelling expenses as may be fixed by the Lieutenant-Governor in Council out of monies voted by the Assembly.

5.—(1) No person shall stand, travel or offer for use any stallion unless and until the name, description and pedigree of such stallion has been enrolled and a certificate of such enrolment procured as hereinafter provided.

(2) For the purposes of enrolment the owner of every stallion shall submit to the Board all evidence of the breeding and ownership of such stallion, and upon receipt of same and payment of the fee, the Board shall issue a certificate accordingly.

(3) All certificates of enrolment shall be renewed annually in accordance with the regulations and upon the payment of the fee hereinafter provided.

(4) In addition, if desired by the owner, any stallion may be inspected as herein provided, in which case the report of such inspection shall form a part of the record of enrolment.

6.—(1) The Board shall keep a register for the enrolment of stallions, which register shall be kept in such form and shall contain such particulars as may be prescribed by the regulations, and the certificate issued shall be in accordance therewith.

(2) Every stallion shall be enrolled in the name of the owner at the time of the enrolment, and in case of a change of ownership the enrolment shall be deemed to be cancelled unless within thirty days thereafter evidence of the change of ownership satisfactory to the Board has been furnished to the Board, in which case a transfer certificate shall be issued by the Board.

(3) When a stallion has been enrolled after the first day of August in any year the enrolment and certificate of enrolment of the stallion shall remain in force until the 31st day of December in the next succeeding year, and when the enrolment has been made before the first day of August in any year the enrolment and certificate thereof shall remain in force until the 31st day of December next following.

(4) When a stallion has reached the age of eight years the first inspection thereafter shall be the final inspection and the enrolment made on the report of such final inspection shall continue to form part of the enrolment and a certificate shall be granted in accordance therewith on each subsequent renewal of such enrolment.

(5) In the case of any other stallion, the report of the Committee shall form a part of the record of the enrolment for two years only, except as provided in subsection 3, after which the said stallion shall be submitted for re-inspection if the owner desires an extension of such certificate.

7. The Board shall fix the times and places at which stallions may be inspected by the Committee, and shall give notice thereof in such manner as may be prescribed by the regulations.

8. A person desiring to procure the inspection of a stallion shall present the stallion for inspection and examination by the Committee, together with such evidence relating to the breeding and ownership of the stallion as may be required by the regulations.

9. The Committee shall inspect the stallion and examine the other evidence submitted and report thereon in writing to the Board.

10.—(1) The report of a majority of the Committee shall be a report of the Committee, but in case the report is not unanimous, and not otherwise, the owner of the stallion may apply to the Board for another inspection and examination, and upon the owner depositing with the Board an amount sufficient in the opinion of the Board to cover the expenses of a further inspection and examination, the Board shall direct another inspection by another Committee, and their decision or the decision of a majority of them shall be final.

(2) In case the appeal is not sustained, the further inspection and examination shall be payable out of the amount of the deposit, and if the appeal is allowed the amount of the deposit shall be returned to the owner.

11. The Board upon consideration of the report of the Committee and after the inspection of the papers supplied relating to the breeding and ownership of the stallion, and upon payment of the fee fixed by this Act, shall make such enrolment of the name, description and pedigree of the stallion in the register herein provided for as may be deemed warranted and shall issue a certificate in accordance with such enrolment to the owner of the stallion.

12.—(1) The certificate of enrolment of any stallion shall form a prominent part of any newspaper or other printed advertisement issued to advertise such stallion.

(2) Every poster issued shall contain a copy of the certificate of enrolment printed in bold face and conspicuous type and shall not contain any illustrations, pedigree or other matter which is untruthful or misleading.

(3) Where no posters are used to advertise a stallion, the owner of the stallion shall exhibit to the owner of each mare at the time of service, if demanded, the original enrolment certificate issued for such stallion.

13.—(1) The fees to be paid to the Board before the issue of any certificate shall be

For enrolment	$2.00
For inspection	5.00
For renewal of enrolment	1.00
For transfer certificate	1.00

(2) The fees received by the Board under this Act shall be paid over to the Treasurer of Ontario for the use of the Province.

14. The Board, subject to the approval of the Lieutenant-Governor in Council, may make such regulations as may be deemed proper and necessary for the better carrying out of the provisions of this Act.

15. Every person who is guilty of a contravention of any of the provisions of this Act shall incur a penalty of not more than $100 nor less than $25, recoverable under *The Ontario Summary Convictions Act.*

16. This Act shall not apply to the Provisional Judicial Districts nor to the Provisional County of Haliburton.

17. Section 5 of this Act shall not come into operation until the first day of August, 1912.

REGULATIONS PROVIDED FOR UNDER SECTION 14 OF THE STALLION ENROLMENT ACT

1. Meetings at regular intervals may be arranged by the Board of resolution and shall be known as regular meetings. Special meetings of the Board may be held upon notice by letter addressed by the Secretary to the home address of each member of the Board and regularly posted in Toronto five days previous to the meeting. A meeting may be held at any time without notice where all the members of the Board are present or signify by letter their consent to the holding of such meeting.

2. At any meeting, whether regular or special, three members shall form a quorum for the transaction of any business of the Board.

3. A Chairman shall be appointed who shall have the right to vote on any question before the Board, and, in case of a tie, shall have a second or casting vote.

4. Application for enrolment shall be made in such form as the Board may prescribe, said application to be accompanied by the necessary fees.

(*a*) The following shall be included as part of the application: "In consideration of the certificate to be issued and delivered to me in pursuance of this application, I hereby agree that I will deliver the same up to the Board upon demand, and will, in case of a sale of the above-named stallion, execute a transfer of the said stallion to the purchaser in the form prescribed by the Board and thereupon deliver the said certificate with said transfer so executed, to the Board or to the purchaser as the case may require. It is further agreed that the certificate shall always be the property of the Board and subject to their control and direction at any time."

5. A report shall be issued by the Board annually, showing the names and addresses of the owners of stallions enrolled, the number of stallions and such particulars regarding the stallion as the Board may decide upon.

6. Each certificate shall be issued under the seal of the Board authenticated by the signatures of the Chairman and the Secretary, who are authorized to issue the same in accordance with the decisions of the Board.

7. In case of the transfer of a stallion a new certificate shall be issued in the name of the transferee, and except in cases of dispute as to ownership, the Chairman and Secretary are, where a transfer of ownership has taken place, authorized to issue new certificates without reference to the Board, provided the regulations of the Board dealing therewith have been complied with. If a dispute as to ownership arises subsequently to the issue of the new certificate, the Board may recall such new certificate.

8. In case of the illness or absence of the Chairman, the Board may appoint a Vice-Chairman, who during such illness or absence shall have all the powers and perform all the duties of the Chairman.

9. Certificates shall be named as follows:

(*a*) Form 1 (pure-bred, inspected and approved.)

(*b*) Form 2 (pure-bred, inspected, but found to be not free from malformations and diseases named in the regulations.)

(*c*) Form 3 (pure-bred, not inspected.)

(*d*) Form 4 (grade, inspected and found to be free from malformations and diseases named in the Regulations.)

(*e*) Form 5 (grade, inspected, but found to be not free from malformations and diseases named in the Regulations.)

(*f*) Form 6 (grade, not inspected.)

10. Each certificate issued shall, as the case may require, be in one of the following forms:

Enrolment No. ..... Form 1.

INSPECTED AND APPROVED.

(Under Regulations Ontario Statute, 2 Geo. V., Chapter 67

ONTARIO STALLION ENROLMENT BOARD

Certificate of Enrolment of

PURE BRED STALLION

The Stallion Enrolment Board of Ontario certifies that the name, description and pedigree of the .....Stallion ..... Registered in the ..... Stud Book as Number ....., owned by ..... of ..... and foaled in 19....., has been enrolled in accordance with Chapter 67 of the Statutes of Ontario, 2 Geo. V.

The above named stallion was, under said Act, inspected by the Officers of the Board on the ..... day of ....., 19....., and found to be free from the malformations and diseases named in the regulations under said Act

This certificate must be renewed on or before the .....day of ...., 19,..... and within thirty days after a change of ownership of the said stallion, a new certificate must be obtained.

..... *Secretary.* ..... *Chairman.*

Dated at Toronto, Ontario,
the .....day of ....., 19.....

Enrolment No. ..... Form 2.

INSPECTED.

(Under Regulations Ontario Statute, 2 Geo. V., Chapter 67.)

ONTARIO STALLION ENROLMENT BOARD

Certificate of Enrolment of

PURE BRED STALLION

The Stallion Enrolment Board of Ontario certifies that the name, description and pedigree of the .....Stallion ..... Registered in the .....Stud Book as Number ....., owned by ..... of ..... and foaled in 19....., has been enrolled in accordance with Chapter 67 of the Statutes of Ontario, 2 Geo. V.

The above named stallion was, under said Act, inspected by the Officers of the Board on the .....day of ..... 19..... and found to have .....

.....

This certificate must be renewed on or before the.....day of..... 19...., and within thirty days after a change of ownership of the said stallion, a new certificate must be obtained.

....*Secretary.* ..... *Chairman.*

Dated at Toronto, Ontario,
the..... day of ....., 19.....

Enrolment No. ..... Form 3.

NOT INSPECTED.

(Under Regulations Ontario Statute, 2 Geo. V., Chapter 67.)

ONTARIO STALLION ENROLMENT BOARD

Certificate of Enrolment of

PURE BRED STALLION

The Stallion Enrolment Board of Ontario certifies that the name, description and pedigree of the .....Stallion .....
Registered in the .....Stud Book as Number ....., owned by
..... of ..... and foaled in 19...., has been enrolled in accordance with Chapter 67 of the Statutes of Ontario, 2 Geo. V.

This certificate must be renewed on or before the ..... day of.....
19...., and within thirty days after a change of ownership of the said stallion, a new certificate must be obtained.

..... *Secretary* .....*Chairman.*
Dated at Toronto, Ontario,
the ..... day of .....,19....

Enrolment No. ..... Form 4.

GRADE.

ONTARIO STALLION ENROLMENT BOARD

Certificate of Enrolment of

GRADE STALLION

The Stallion Enrolment Board of Ontario certifies that the name, description and breeding of the Grade Stallion Called ..... color and markings
.....
.....
..... owned by .....
of ..... and foaled in 19....., has been enrolled in accordance with Chapter 67 of the Statutes of Ontario, 2 Geo. V.

The above named stallion was, under said Act, inspected by the Officers of the Board on the ..... day of ....., 19...., and found to be free from the malformations and diseases named in the regulations under said Act.

This certificate must be renewed on or before the ..... day of .....
....., 19...., and within thirty days after a change of ownership of the said stallion, a new certificate must be obtained.

.....*Secretary* .....*Chairman.*
Dated at Toronto, Ontario,
the ..... day of .....,19.....

Enrolment No. ..... Form 5.

GRADE.

ONTARIO STALLION ENROLMENT BOARD

Certificate of Enrolment of

GRADE STALLION

The Stallion Enrolment Board of Ontario certifies that the name, description and breeding of the Grade Stallion Called .....
color and markings .....
.....
..... owned by .....
of ..... and foaled in 19...., has been enrolled in accordance with Chapter 67 of the Statutes of Ontario, 2 Geo. V.

The above-named stallion was, under said Act, inspected by the Officers of the Board on the ..... day of .....19...., and found to have
.....
.....

This certificate must be renewed on or before the .....day of .....,
19...., and within thirty days after a change of ownership of the said stallion, a new certificate must be obtained.

..... *Secretary* ..... *Chairman.*

Dated at Toronto Ontario,
the ..... day of .....,19....

Enrolment No. ..... Form 6.

GRADE—NOT INSPECTED.

ONTARIO STALLION ENROLMENT BOARD

Certificate of Enrolment of

GRADE STALLION

The Stallion Enrolment Board of Ontario certifies that the name, description and breeding of the Grade Stallion called .....
color and markings .....
.....
..... owned by .....
of .....and foaled in 19...., has been enrolled in accordance with Chapter 67 of the Statutes of Ontario, 2 Geo. V.

This certificate must be renewed on or before the ..... day of.....
19...., and within thirty days after a change of ownership of the said stallion, a new certificate must be obtained.

..... *Secretary* ..... *Chairman.*

Dated at Toronto Ontario,
the ..... day of ....., 19....

11. For the purposes of this Act—

(*a*) A pure-bred stallion shall be considered to be one registered in one of the records affiliated with the Canadian National Live Stock Records, or in case there is no such record for the breed, in one of the records recognized as authentic by the Record Board.

(*b*) A grade shall be considered to be any other stallion.

12. The following shall be considered diseases or malformations, as the case may be, under these regulations: Bone spavin; curb, when associated with a formation of hock which predisposes to curb; bog spavin, when associated with a formation of hock which predisposes to bog spavin; ring bone; string-halt; side bone; roaring or whistling; periodic ophthalmia; and navicular disease.

13. In case of a pure-bred stallion, the Committee shall, as evidence of breeding and ownership of such stallion, require a certificate of registration of the pedigree, issued or recognized as authentic by the Canadian National Live Stock Record Board, showing the applicant for enrolment to be the recorded owner, or in the case of recognized foreign certificates, such evidence as the Board may decide as to ownership, provided that in the case of dispute as to ownership, the Board may accept such evidence as to it seems sufficient.

14. In the case of grades, a signed statement shall be submitted to the Board by the owner, giving such information as he may be able to give regarding the breeding, and must make a further statement that such information, to the best of his knowledge, is correct, and that he is the owner of the said stallion. In the case of a dispute as to ownership, the Board shall have power, upon such evidence as the Board may think proper, to determine the matter for the purpose of issuing the enrolment certificate.

15. The certificates issued by the Board shall be the property of the Board, and each applicant for a certificate of enrolment or transfer shall be required in his application to agree to surrender to the Board upon demand the certificate to be issued, and in case of a sale of the stallion mentioned in such certificate, to agree to sign a transfer to the purchaser in the form prescribed by the Board. The Board shall have such status and power as may be necessary to enforce such agreements in any court of competent jurisdiction.

16. The purchaser of an enrolled stallion shall, upon the sale, obtain from the vendor the certificate of enrolment with a transfer endorsed thereon in the prescribed form and signed by the vendor (who, if the law and these regulations have been complied with, will be the owner according to the record of enrolment), and forthwith transmit the same to the Secretary of the Board. The Board will, upon receipt of the same, properly signed, issue a new certificate in the name of the purchaser.

17. The Seal, an impression of which appears in the Margin herewith, shall be the Seal of the Board.

18. The Board may cancel any certificate of enrolment which has been issued by it upon representations subsequently proved to its satisfaction to have been incorrect.

19. A notice of the time and place of inspections by the Committees shall be given by advertisement in such local papers as may be designated by the Board in at least two issues thereof.

20. Each owner of a stallion shall transmit to the Secretary of the Board a copy of every poster or other advertisement issued or used for the purpose of advertising such stallion forthwith after the issue thereof. In default of compliance with this regulation, the Board may cancel any certificate issued for such stallion.

21. The Register of Enrolment shall be kept in a book and shall be in the form and contain the particulars indicated by the following form:

REGISTER OF ENROLMENT

File no. ..... Enrolment No. .....Certificate No. .....
Name of Stallion .....Breed .....
Registration No. .....
Inspected by .....Date .....
Report .....
Inspected by .....Date .....
Report .....
Inspected by .....Date .....
Report .....
Form of Certificate Issued .....Date .....
Form of Certificate Issued .....Date .....
Form of Certificate Issued .....Date .....
Owner .....Address .....
Transfers:
To .....Address .....
Date of Sale .....Date certificate Issued .....
Certificate No. .....Authority .....
To .....Address .....
Date of Sale .....Date Certificate Issued .....
Certificate No. .....Authority .....
To .....Address .....
Date of Sale .....Date Certificate Issued .....
Certificate No. .....Authority .....
To .....Address .....
Date of Sale .....Date Certificate Issued .....
Certificate No. .....Authority .....
To .....Address .....
Date of Sale .....Date Certificate Issued .....
Certificate No. .....Authority .....
To .....Address .....
Date of Sale .....Date Certificate Issued .....
Certificate No. .....Authority .....

The Board may, from time to time, alter the above form and vary or add to the above indicated particulars.

22. Notice of cancellation of a certificate shall be in writing, signed by the Secretary of the Board, and regularly posted in Toronto by registered post, addressed to the owner at his address, according to the record of enrolment, and cancellation, except as provided by section 6, subsection 2, of the Act, shall be deemed to take place at the end of the tenth day after the day upon which such notice was so posted.

23. Where a certificate is cancelled by reason of failure to comply with subsection 2 of section 6 of the Act, or for other cause, the Board may issue a new certificate to the owner upon his application.

24.—(*a*) In case of necessity, where an application cannot be dealt with immediately by the Board, the Chairman and Secretary may issue an interim certificate, which shall be valid for all purposes under the Act, until the application is dealt with by the Board, and which shall be in the following form:

ONTARIO STALLION ENROLMENT BOARD

INTERIM CERTIFICATE.

This is to certify that .....
of ..... *has applied for enrolment*
of the ..... stallion .....
and that such application is being considered by the Board.
..... *Secretary.* ..... *Chairman.*
Toronto,
.....19.....

(*b*) Interim certificates may be issued for a certain specified time.

PRESENT LEGISLATION REGARDING STALLION REGISTRATION

Legislation requiring the enrolment of stallions standing for public service is now in effect in all the Province of Canada, except Quebec. In the United States it is in effect in the following States:—Wisconsin, Illinois, Minnesota, Colorado, South Dakota, North Dakota, Vermont, New Hampshire, New Jersey, Massachusetts, Iowa, Kansas, Montana, Nebraska, Pennsylvania, Michigan, Oregon, Utah, California, Ohio, Washington and Indiana. The Province of New Brunswick and the States of Vermont and Massachusetts require local registration where the stallion stands for service, and in New Hampshire the pedigree of all stallions requires to be registered with the Secretary of the State Board of Agriculture. In these districts legislation makes no attempt at control, the object in view apparently being to have a record of the stallions in each locality.

In the other States mentioned above and in the Western Provinces legislation provides for the inspection of the pedigree of each stallion standing for service, and in a large number of cases also provides for the inspection of the individual animal and the class or kind of certificate issued for such stallion depends upon the finding after such inspection.

In a general way there are two main distinctions in the different kinds of legislation:—(1) When the pedigree alone is inspected; (2) When both the pedigree and the animal are inspected. When the pedigree alone is inspected license certificates are issued according to the pedigree. In most cases this takes in a class of certificates for "pure-bred" "cross-bred" and "grade." Sometimes, however, it is confined to "pure-bred" and "grade" while other states have a fourth class for "mongrel or scrub." In the case of the pedigree alone being inspected no stallion is prohibited from standing for service, but where both pedigree and animal are inspected, any horses affected with any hereditary unsoundness or transmissable disease, according to a specified list of diseases prescribed for the purpose of the Act, are not given a certificate and are not allowed to stand for service.

Inspection of the pedigree is in effect in all Provinces of Canada except Quebec, and in Iowa, Colorado, Nebraska and Michigan. But there is some variation even in some of these. In Manitoba the owner of a pure-bred stallion may,

if he desires, supply a certificate from a licensed veterinarian or a statutory declaration made by himself that the horse is free from a list of diseases specified, and he is given a Class A certificate, while if this is not supplied he is only given a Class B certificate. Classes C and D certificates are given for "cross-bred" and "grade" stallions. In the three states mentioned certificates are only issued for "pure-breds" and it is optional whether or not a pedigree is enrolled, but if the pedigree is not enrolled the owner is required to advertise the stallion as a grade.

The states of Wisconsin, Minnesota, Illinois, New Jersey, Kansas, Montana, North Dakota, California, Oregon, Indiana, Utah, Washington, Pennsylvania, Ohio, and South Dakota require the inspection of both pedigree and animal. In Michigan horses coming into the State must be inspected. In these States with the exception of Wisconsin this work is placed under the control of a Stallion Registration Board provided for by the Act. This Board passes on all certificates of breeding and the certificates as to soundness, and authorizes the issuing of the license certificate. In Wisconsin the certificates are issued by the Department of Horse Breeding of the State Agricultural College. In making application for a license certificate the applicant is required to furnish certificate of breeding, but different plans have been adopted by different states to procure the certificate of soundness of the individual,—(1) by statutory declaration of the owner; (2) by certificate of a veterinarian; (3) by statutory declaration of the veterinarian; (4) by special inspectors appointed by the Registration Board.

All States where legislation is in force, except those requiring local registration only, require that the license certificate issued should form a part (printed in prominent type) of all bills or posters and newspaper advertisements, and also require that bills should be posted conspicuously in any stable or building where the stallion stands for service.

The fees run from $10 to $1 for first certificate and from $2 to 25c. for renewals. Transfers are issued for from $2 to 50c. The amount of the fee varies according to the plan adopted for conducting the work.

The first legislation passed in Canada was in Manitoba in 1902, and the present Manitoba Act was passed in 1906. The first legislation along these lines in the United States was in Wisconsin in 1905.

STALLION INSPECTION AND REGISTRATION IN CANADA

British Columbia.—(1) The name, description and pedigree of every stallion standing for profit or gain in British Columbia shall be enrolled with the Department of Agriculture. The fee for enrolling and for certificate is $5. Transfers may be made for $2 each.

(2) Copy of such certificate must be posted up and kept affixed during whole season in a conspicuous place, both within and without main door of building where stallions stand regularly for service. Different certificates shall be for—

(*a*) Where dam and sire are pure-bred of same breed.

(*b*) Where dam or sire are not pure-bred.

(*c*) Where dam and sire are pure-bred of different breeds.

Every bill, poster or advertisement of any stallion shall contain copy of certificate of enrolment, and if certificate is in form (*b*) or (*c*) there shall be written or printed across the face of it in red ink the word "unregistrated."

(3) The owner of stallion holding form (*a*) certificate is given a lien on the colt or filly unpaid by 1st of January of year following that in which colt was born.

(4) Penalty for violation not exceeding $25.00.

(5) Act passed 1907 in force 1st of January, 1908.

ALBERTA.—The Act provides for the enrolment of stallions according to the pedigree. Three forms of certificates are issued—"pure-bred," "cross-bred" and "grade." Certificates are required to be a part of advertisement wherever advertised. Fee for enrolment $2; renewal 25 cts.; tansfers $1. Owners of pure-bred horses are given a lien on colts. Penalty—not exceeding $25. Practically the same as British Columbia.

SASKATCHEWAN.—The same as Alberta.

MANITOBA.—The Act which comes into effect, January, 1914, states that all stallions standing for service shall be registered. That in order that a stallion be licensed he must pass a veterinary examination and be free from certain contagious or transmissable diseases. These certain diseases shall absolutely disqualify a stallion for service.

The owner of any stallion standing for public service in this Province shall post and keep affixed during the entire breeding season copies of the license certificates of such stallions, issued under the provisions of this Act, in a conspicuous place upon the main door leading into every stable or building where the said stallion stands for public service. Said copies shall be printed in bold face and conspicuous types, not smaller than pica, especially the word license.

The license certificates shall be issued after the proper examination for a stallion, whose sire and dam are of pure breeding and the pedigree of which is registered in a stud-book recognized by the Dominion Department of Agriculture, or in any Canadian stud-book or registry association that recognizes and records stallions that have five pure top-crosses.

Every bill, poster or advertisement issued by the owner of any stallion, licensed under this Act, or used by him for advertising such stallions, shall contain a copy of his licensed certificate, and shall not contain illustrations, pedigrees or other matter that is untruthful or misleading.

If the provisions of this Act are complied with the owner of a stallion may file a lien upon any colt gotten by such stallion, for the sum stipulated to be paid for the services of the stallion, at any time before the cold is one year old, in case the price agreed upon for such service remains unpaid.

Violation of any of the provisions of this Act shall be punished by a fine of not less than $25 or more than $100 for each offence.

Any grade stallion travelling shall not have printed or posted up any bills or cards setting forth breeding of such stallion nor be able to charge or collect fees.

NOVA SCOTIA.—An Act for the Encouragement of Horse Breeding in Nova Scotia was passed on the third day of May, 1912, and came into force on the first day of January, 1913.

(1) No person, firm or company shall stand, travel or offer for use any stallion in this Province, unless and until the same, description and pedigree of such stallion shall have been enrolled and a certificate of such enrolment procured as hereinafter provided.

(2) The owner of any stallion used for public service in this Province, shall post and keep affixed during the entire breeding season, copies of the certificate of such stallion, issued under the provision of this Act, in a conspicuous place, both within and upon the outside of every stable or building where the stallion is used for public service.

(3) Each bill and poster issued by the owner of any stallion under this Act, or used by him as agent for advertising such stallion, shall contain a copy of the stallion's certificate of enrolment, printed in bold face type, not smaller than long primer, on said bill or poster, and the first mention thereon of the name of the stallion shall be preceded by the words "pure-bred," "grade" or "cross bred," in accordance with the wording of the certificate of enrolment; and it shall be illegal to print upon the poster any misleading reference to the breeding of the stallion, his sire or his dam, or to use upon such bill or poster the portrait of a stallion in a misleading way; and each newspaper advertisement, printed to advertise any stallion for public service, shall show the enrolment certificate number and state whether it reads "pure-bred," "grade" or "cross bred."

(4) Where no posters are used to advertise a stallion, the owner of the stallion shall exhibit to the owner of each mare at the time of service, if demanded, the original enrolment certificate issued for such stallion.

QUEBEC.—None.

PRINCE EDWARD ISLAND.—No person, firm or company shall stand, travel or offer for use any stallion in this Province unless and until the name, description and pedigree of such stallion shall have been enrolled and a certificate of such enrolment procured as hereinafter provided.

(2) All certificates of enrolment shall be renewed annually, upon payment of the fee of one dollar.

(3) The owner of any stallion used for public service in this Province shall post and keep affixed during the entire breeding season, copies of the certificate of such stallion, issued under the provisions of this Act, in a conspicuous place, both within and upon the outside of every stable or building where the stallion is used for public service.

(4) The certificate issued for a stallion whose sire and dam are of pure breeding and which is registered in a book approved by the Department, shall be in the Form A in the schedule.

(5) The certificate issued for a stallion whose sire is of pure breeding and which is registered in a book approved by the Department, but whose dam is not of pure breeding, shall be in Form B in the schedule.

(6) The certificate issued for a stallion whose sire and dam are pure-bred, but not of the same breed, or whose sire and dam are neither of them pure-bred, shall be in Form C in the Schedule.

NEW BRUNSWICK.—Every stallion owner must register his horse with the Registrar of Deeds for the County where horse is owned and travels before it is legal to collect a service fee.

STALLION LEGISLATION IN THE UNITED STATES

Wisconsin.

The chief provisions of the Wisconsin law which was passed in 1905, and was one of the first laws passed in the United States with reference to the licensing of stallions.

1. Compulsory enrolment of all stallions offered for service.

2. To obtain the necessary enrolment and license, the owner must make oath before a duly authorized officer, that the stallion is, to the best of his knowledge, free from hereditary, contagious or transmissible unsoundness or disease, or in lieu of this declaration, file a certificate of soundness signed by a duly qualified veterinarian, which has practically the same effect as compulsory inspection.

3. The disqualification of a stallion for the following diseases: Cataract; amaurosis (glass eye); periodic ophthalmia (moon blindness).

Laryngeal Hemiplegia (roaring or whistling).

Pulmonary emphysema (heaves, broken wind).

Chorea (St. Vitus' dance, crampiness, shivering, string-halt).

Bone spavin; ringbone; sidebone; navicular disease.

Bog spavin; curb, with curby formation of hock.

Glanders, farcy; maladie du coit; urethral gleet; mange; melanosis; and the department of horse breeding is hereby authorized to refuse its certificate of enrolment to any stallion or jack affected with any one of the diseases hereby specified, and to revoke the previously issued enrolment certificate of any stallion or jack found on investigation by the Department to be so affected.

4. The owner of a stallion used for public service must post and keep affixed through the entire breeding seasons, copies of the license certificate in a conspicuous place, both within and on the outside of every stable where the stallion is used for public service, whether it is home or elsewhere.

5. Certificates are issued in 5 different forms:

A. *For Pure-breds* which correspond to the requirement of the Ontario Act for pure-bred.

B. *For Grades.* The grade certificate is issued to a stallion, one of whose parents was pure-bred.

C. *Crossbred.* This certificate is issued to a stallion whose sire and dam were both pure-breds, but not of the same breed.

D. *Non-Standard.* This certificate is issued to a horse recorded in the Non-standard department of the American Trotting Register and a condition issued not to be met with very often in Ontario.

E. *Mongrel or Scrub,* issued for a stallion that has neither sire nor dam of pure breeding.

6. Each bill or poster used in advertising any stallion shall contain a copy of the stallion's certificate of enrolment. The name of the stallion to be proceeded by the words pure-bred, grade, cross-bred, mongrel or scrub, in accordance with the wording of the certificate. Any newspaper advertisement must also contain this information.

7. Violation of any of the provisions of the law is punishable by a fine of not less than $10.00 or more than $50.00, or by imprisonment in the county jail for not more than 60 days, or by both fine and imprisonment, and it is the duty of the District Attorney of the County in which the violation takes place to prosecute the action.

Utah.

The main provisions of the stallion license law of Utah which was passed in 1907, are;

1. Compulsory enrolment.

2. Compulsory inspection by a qualified veterinarian who is satisfactory to the Board or by some other inspector appointed by the Board.

3. The disqualification of any stallion which has any of the following diseases: Cataract; amaurosis; periodic ophthalmia (moon blindness); laryngeal hemiplegia (roaring or whistling).

Bone spavin; ringbone; enlarged sidebone; navicular diseases.

Bog spavin; curby formation of hock.

Glanders, farcy; maladie du coit; urethral gleet; mange; melanosis; or any marked, faulty, or weak conformation which is likely to be transmitted.

4. Certificate of enrolment must be recorded with the recorder of deeds for the County in which the stallion is kept, and a copy of the license certificate must be posted in a conspicuous place where the said stallion stands for public service. Every bill, poster, or other advertisement used by the owner of the stallion shall contain a copy of his certificate of enrolment.

5. Three grades of certificates are issued. Pure-bred, Non-Standard, and Grade or Mongrel.

6. Definite penalties are not assigned for violation of the Act, although a violation is considered a misdemeanor under the laws of the State.

Minnesota.

Requirements of the Minnesota stallion law.

1. Compulsory enrolment.

2. License certificate is issued only upon the presentation of the certificate and affidavit by a qualified veterinarian to the effect that the stallion is free from the infectious, contagious or transmissible disease or unsoundness.

3. Disqualification of all stallions having one or more of the following diseases or unsoundness: Cataract; amaurosis, laryngeal hemiplegia (roaring or whistling), chorea, (St. Vitus' dance, crampiness, shivering, string halt), bone spavin, ringbone, melanosis and curb when accompanied by curby hock.

4. Two forms of license are issued, one for pure-breds and one for grades.

5. The owner of the stallion must post during the entire breeding season copy of the license certificate in a conspicious place upon the main door of every stable or building where the stallion stands for service, and every bill, poster, or other advertisement used must contain a copy of his license certificate.

6. Violation of any of the provisions of the Act is punishable by a fine of not less than $25.00 and not more than $100.00.

North Dakota.

The North Dakota stallion law which went into effect January first, 1910, has for chief provisions:—

1. Compulsory Enrolment.

2. Inspection by a veterinary surgeon.

3. Disqualification for the following diseases: Cataract, amaurosis, laryngeal hemiplegia (roaring or whistling), chorea (St. Vitus' dance, crampiness, string-

halt), glanders, farcy, maladie du coit, urethral gleet, mange, bone spavin, ringbone, side bone and curb when accompanied by curby hock.

Four forms of certificates issued, pure-bred, cross-bred, grade, mongrel or scrub.

3. Compulsory posting of a copy of the certificate on the main door of every stable or building where the stallion stands for service, and every poster or advertisement must contain a copy of the license certificate.

5. Violations of the Act to be punished by a fine of not less than $25.00 or more than $100.00.

South Dakota.

The South Dakota law is practically the same as that of North Dakota.

Iowa.

The Act in the State of Iowa provides for:

1. Compulsory enrolment.

2. To obtain a certificate, the owner must make oath before a duly authorized officer, that the stallion is to the best of his knowledge free from hereditary, contagious or transmissible disease, or present a certificate signed by a duly qualified veterinarian, to the effect that the horse is free from the diseases or unsoundness mentioned in the Act.

3. The presence of any one of the following diseases disqualifies the stallion: Glanders, farcy, maladie du coit, coital exanthema, urethral gleet, mange melanosis blindness, cataract, bone spavin, bog spavin, periodic ophthalmia (moon blindness).

Stallions or jacks possessing any one of the following named unsoundness may receive a certificate, but each certificate and every advertisement shall state in large type or writing that the stallion or jack is unsound and shall specify the unsoundness or unsoundnesses which said stallion or jack has: Amourosis, laryngeal hemiplegia (roaring or whistling), pulmonary emphysema (heaves, broken wind), ringbone, side-bone, navicular disease, curb, with curby formation of hock, chorea (St. Vitus' dance, crampiness, shivering, string halt).

4. Two forms of certificates are issued, one for pure-breds, and one for Grades.

Illinois.

The Illinois stallion registration law has as its chief provision—

1. Compulsory enrolment.

2. As a provision for obtaining a license certificate, stallion owners must forward an affidavit, signed by a licensed veterinarian, to the effect that he has personally examined the stallion and finds him to the best of his knowledge to be free from hereditary, infectious, contagious or transmissible diseases or unsoundness.

3. The presence of any one or more of the following diseases should be sufficient grounds to authorize the refusal of an affidavit of soundness on the part of the veterinarian: Periodic ophthalmia (moon blindness), bone spavin, ringbone, bog spavin, curb, when accompanied with curby formation of hock, or any contagious or infectious disease.

4. A copy of the license certificate must be kept posted in every stable where the stallion stands for service, and every bill, or poster, or newspaper advertisement shall contain a copy of the enrolment certificate.

5. Three forms of certificates are issued, pure-bred, grades, and cross-breds.

6. A stallion once passing inspection is exempt from further inspection unless a complaint is made that he has afterward developed some of the diseases which would disqualify him.

7. The violation of any of the provisions of the Act is punishable by a fine of not less than $25.00 and not more than $100.00.

New Jersey.

The New Jersey law provides for—

1. Compulsory enrolment.

2. Inspection of each stallion at the County Seat of each County, or some other place as may be fixed by the Board.

3. No certificate will be issued to a stallion affected with any one or more of the following diseases: Cataract, amaurosis (glass eye), periodic ophthalmia (moon blindness), laryngeal hemiplegia (roaring or whistling), pulmonary emphysema (heaves, broken wind), chorea (St. Vitus' dance, crampiness, shivering, stringhalt), bone spavin, ringbone, sidebone, navicular disease, bog spavin, curb, with curby formation of hock, glanders, farcy, maladie du coit, utheral gleet, mange, melanosis, osteosperosis, canker of the foot, laminitis.

4. Certificates are issued in two forms—pure-bred and grade.

5. Copies of the enrolment certificate containing the words pure-bred or grade, in conspicuous type, must be posted in every stable where the stallion stands for service, and every bill, poster, or other advertisement must contain a copy of the license certificate.

Kansas.

The main provisions of the Kansas Act are—

1. No stallion can legally stand for public service in the State without a State License issued by the Live Stock Registration Board.

2. To procure a State license, the owner of the stallion must have the stallion examined for soundness by an authorized veterinarian.

3. The owner of any stallion standing for public service in the State must keep posted during the entire breeding season, copies of the license certificate in a conspicuous place upon the main door leading into the stable or building where the stallion stands for public service; and every bill, poster or other advertisement issued by the owner, shall cantain a correct copy of the certificate of enrolment.

4. Any stallion standing for public service with any pure-bred, must have posted conspicuously on the door of the stall in which he is kept, in black type not less than one inch in height, statement whether the stallion is a grade or cross-bred, as the case may be.

Montana.

The main provisions of the Montana stallion law are—

1. Compulsory enrolment.

2. Compulsory veterinary inspection.

3. The refusal of an enrolment certificate of stallions suffering from any one of the following diseases: Cataract, amaurosis, laryngeal hemiplegia (roaring or whistling), chorea (St. Vitus' dance, crampiness, shivering, stringhalt), bone

spavin, ringbone, sidebone, glanders, farcy, maladie de coit, urethral gleet, mange, melanosis, and curb when accompanied by curby hock, except in the case of a stallion which was in the State and was held for public use or sale at the time of the passage of the Act. In addition to the diseases mentioned, no stallion which is so badly deformed or diseased that, in the opinion of the Stallion Registration Board, he is wholly unfit for breeding purposes, shall be granted a license certificate.

4. Certificates are issued in two forms—pure-bred and grade. To obtain a certificate as a grade, either the sire or dam of the stallion, but not both, must be of pure breeding, and no stallion which is neither pure-bred nor grade according to the meaning of the Act is allowed to be imported in the State for breeding purposes.

5. A copy of the certificate must be posted in a conspicuous place in every stable where the stallion stands for public service, and every bill, poster or other advertisement used must contain a copy of the license certificate.

6. Penalty for an infraction of the Act is a fine of not less than $60.00 and not more than $200.00.

Oregon.

The Oregon law is practically the same as that for Montana, with the exception that four forms of certificates are issued, as in Wisconsin. They are for pure-bred, cross-bred, grade, and mongrel.

Vermont.

Each stallion must be registered with town clerk in town where he is kept or used. Full description must be given including name, age, color, size, name of breeder and pedigree to third generation as much as known, and much as is not known shall be acknowledged as such. Charge of registration, 50c. Violation of Act, penalty not less than $10 and not more than $50. For false information a fine of $100 will be levied, to go to the town.

Nebraska.

The law regulating the public service of stallions came in force, April 24th, 1913. It enacts that after that date the inspection and registration of pedigrees of all stallions is required. Inspection is compulsory and any stallion being affected withone or more of the following diseases, namely: urethral gleet, melanosis, periodic ophthalmia (moon blindness), laryngeal hemiplegia (roaring), cataract, amaurosis (glass eye), chorea (St. Vitus' dance), stringhalt, bone spavin, bog spavin, ringbone, sidebone, curb, with curby formation of hock, or is seriously defective in conformation or vicious disposition may be barred from public service.

Every owner or keeper of a stallion kept for service shall keep posted the certificate issued by the Stallion Registration Board, or a copy of the same during the entire breeding season in a conspicuous place in every shed or building in which such stallion is kept for service.

New Hampshire.

All stallions require to be registered in office of Secretary of Agriculture as to pedigree. General feeling favourable, no complaints from its working in any section.

Massachusetts.

Requires stallions to be recorded with clerk of town where stallion is owned or kept, and fee of 25c. collected.

Colorado.

The new stallion law which takes effect Aug. 5th, 1911, enacts that after that date it will be unlawful for any person to stand a stallion for public service without a license. Two forms of certificate are issued, namely: pure-bred and grade. Inspection is compulsory, and certain diseases prohibit the animal from being licensed. The owner of any licensed stallion shall have a lien upon the get of any such stallion until the service fee has been paid. Every stallion owner shall post a copy of the license in a prominent place on or near the stall where the stallion is kept or he shall carry and exhibit such license to the owner in charge, or care of any mare.

Indiana.

All stallions used or offered for use for public service must be enrolled.

The Certificate of Enrolment which shall be designated by the Board, shall show the breeding and condition of soundness of the stallion for which issued.

Classification of Stallions as to Breeding.

Pure-breds.—Horses shall be considered as pure-bred if registered in any of the stud books of record mentioned as standard by the law.

Grade.—Horses shall be considered grade if their sire or dam only is registered in any of said books.

Cross-bred.—Horses shall be considered cross-bred if the sire is registered in one and the dam in another of said books, provided that same are for different breeds.

Scrub.—Horses shall be considered scrub if neither sire or dam is registered in any of the said books or record.

Standard-bred.—Horses shall be considered standard-bred when recorded in the standard-bred department of the American Trotting Register.

Non-standard bred.—Horses shall be considered non-standard-bred when recorded in the non-standard-bred department of the American Trotting Register.

Incurable infectious, or contagious diseases which disqualify stallions for service are: glanders, maladie du coit; mange, urethral gleet.

Unsoundness which must be advertised if stallions are afflicted with same are: recurrent ophthalmia (moon blindness) cataract; glaucoma; amaurosis; laryngeal hemiplegia (roaring or whistling); pulmonary emphysema (heaves); chorea (crampiness); stringhalt; bog spavin; bone spavin; curb, when associated with curby conformation of the hock; ringbone; sidebone; navicular disease.

Certificate of condition of soundness shall be required every two years, and must be made by a licensed veterinarian after a careful examination of the stallion, and he shall make affidavit thereto on regular blanks supplied by the Board. After a stallion has reached ten years of age, and is in a sound condition, certificates of condition of soundness shall not be required unless it is found that the horse has become unsound. Protests may be made by three freeholders.

Correct copies of the stallion enrolment certificate must be kept affixed in conspicuous places both within and upon the outside of any stable, place or building where the horse is used for service. All posters must have a correct copy of the enrolment certificate printed upon them in bold faced type not smaller than "small pica." Breeding and condition of soundness must be printed at the top of the poster in type not smaller than that in which the name of the stallion shall appear at any place whatsoever upon the bill. A portrait of a stallion shall not be used in a misleading manner. Newspaper ads., circular letters, etc., must show the enrolment certificate number and state whether same reads sound or unsound, and state breeding as shown on the certificate.

Advertising at variance with the intent and purpose of the law may be suppressed and ordered corrected by the Board, and the certificate of enrolment shall be temporarily revoked, and service fees shall be illegal and not subject to collection.

Having complied with the provisions of the law, the stallion owner may have a lien upon the offspring to recover service fees.

Any violation of the law is a misdemeanor. Penalties: not less than a fine of $10.00 nor more than $200.00; or, not more than 60 days' imprisonment in county jail; or, both such fine and imprisonment.

SUMMARY FOR THE PROVINCE OF ONTARIO SHOWING BY COUNTIES THE NUMBER OF STALLIONS ENROLLED, ALSO THE NUMBER OF STALLIONS INSPECTED, AND THE REPORT OF SUCH INSPECTION.

County.	Enrolment.			Inspection.						
							Pure-breds.		Grade .	
	Total No.	No. Pure-breds.	No. Grades.	Total No. Inspected.	Total No. Approved.	Total No. Rejected.	Approved.	Rejected.	Approved.	Rejected.
Brant	28	17	11	16	15	1	13	1	2	....
Bruce	103	68	35	35	35	.....	29	.....	6	....
Carleton	65	34	31	21	20	1	15	.....	5	1
Dufferin	51	40	11	24	24	.....	20	.....	4	....
Dundas	44	25	19	22	21	1	13	1	8	....
Durham	60	42	18	23	22	1	20	1	2	....
Elgin	65	33	32	26	25	1	15	1	10	....
Essex	69	40	29	22	20	2	11	2	9	....
Frontenac	31	12	19	16	16	.....	6	.....	10	....
Glengarry	34	20	14	10	9	1	7	.....	2	1
Grenville	37	16	21	17	16	1	9	1	7	....
Grey	108	83	25	38	38	.....	35	.....	3	....
Haldimand	47	23	24	28	27	1	15	.....	12	1
Halton	27	20	7	14	12	2	8	2	4	....
Hastings	82	21	61	35	33	2	14	1	19	1
Huron	112	81	31	15	14	1	12	1	2	....
Kent	130	90	40	60	56	4	45	2	11	2
Lambton	113	88	25	33	32	1	26	1	6	....
Lanark	58	36	22	27	27	.....	21	.....	6	....
Leeds	50	18	32	36	33	3	18	.....	15	3
Lennox and Addington	45	15	30	20	20	.....	5	.....	15	....
Lincoln	27	13	14	11	11	.....	10	.....	1	....
Middlesex	128	92	36	35	35	.....	30	.....	5	....
Norfolk	57	39	18	19	19	.....	14	.....	5	....
Northumberland	50	30	20	22	21	1	13	.....	8	1
Ontario	101	85	16	62	62	.....	56	.....	6	....
Oxford	77	52	25	26	23	3	17	2	6	1
Peel	52	43	9	11	11	.....	9	.....	2	....
Perth	81	65	16	20	20	.....	18	.....	2	....
Peterboro	46	24	22	14	12	2	8	1	4	1
Prescott	46	12	34	13	13	.....	6	.....	7	....
Prince Edward	29	12	17	16	11	5	4	3	7	2
Renfrew	85	50	35	37	37	.....	31	.....	6	....
Russell	39	21	18	21	20	1	13	.....	7	1
Simcoe	139	98	41	54	54	.....	38	.....	16	....
Stormont	32	14	18	22	22	.....	11	.....	11	....
Victoria	48	33	15	19	19	.....	16	.....	3	....
Waterloo	48	35	13	22	21	1	13	.....	8	1
Welland	17	10	7	4	3	1	1	1	2	....
Wellington	104	78	26	32	32	.....	27	.....	5	....
Wentworth	50	25	25	17	17	.....	12	.....	5	....
York	119	94	25	56	56	.....	49	.....	7	....
OUTSIDE POINTS.										
Muskoka	6	4	2	3	3	.....	3	.....	.....	....
Parry Sound	3	3	.....	2	2	.....	2	.....	.....	....
Algoma	3	2	1	1	1	.....	.....	.....	1	....
Quebec	12	10	2	4	4	.....	3	.....	1	....
Alberta	2	1	1	1	1	.....	.....	.....	1	....
TOTALS	2,760	1,767	993	1,082	1,045	37	761	21	284	16

NOTE.—The number of Stallions rejected as unsound appears to be comparatively small, but it should be borne in mind that inspection is optional, and it would only be natural that persons having unsound horses, and knowing them to be unsound, would not likely present their horses for inspection, as they would be certain of rejection.

TABLE SHOWING RESULT OF INSPECTION FOR PROVINCE OF ONTARIO FOR 1912-1913.

County.	Total No. Stallions inspected.	No. inspected and approved.	No. inspected and rejected.	Causes for rejections.						
				Curb.	Bone Spavin.	Bog Spavin.	Ring Bone.	String Halt.	Side Bone.	Roaring or Whistling.
Brant	16	15	1	.....	.....	.....	.....	.....	1	.....
Bruce	35	35	.....	.....	.....	.....	.....	.....	.....	.....
Carleton	21	20	1	.....	1	.....	.....	.....	.....	.....
Dufferin	24	24	.....	.....	.....	.....	.....	.....	.....	.....
Dundas	22	21	1	.....	1	.....	.....	.....	.....	.....
Durham	23	22	1	.....	.....	.....	.....	.....	1	.....
Elgin	26	25	1	.....	.....	.....	.....	.....	.....	1
Essex	22	20	2	.....	.....	.....	.....	.....	2	.....
Frontenac	16	16	.....	.....	.....	.....	.....	.....	.....	.....
Glengarry	10	9	1	.....	1	.....	.....	.....	.....	.....
Grenville	17	16	1	1	.....	.....	.....	.....	.....	.....
Grey	38	38	.....	.....	.....	.....	.....	.....	.....	.....
Haldimand	28	27	1	.....	.....	.....	.....	.....	1	.....
Halton	14	12	2	.....	.....	1	1	1	.....	.....
Hastings	35	33	2	.....	.....	.....	.....	.....	2	.....
Huron	15	14	1	.....	.....	.....	.....	.....	1	.....
Kent	60	56	4	.....	1	1	.....	1	1	.....
Lambton	33	32	1	.....	.....	.....	.....	.....	1	.....
Lanark	27	27	.....	.....	.....	.....	.....	.....	.....	.....
Leeds	36	33	3	1	1	1	.....	.....	.....	1
Lennox and Addington	20	20	.....	.....	.....	.....	.....	.....	.....	.....
Lincoln	11	11	.....	.....	.....	.....	.....	.....	.....	.....
Middlesex	35	35	.....	.....	.....	.....	.....	.....	.....	.....
Norfolk	19	19	.....	.....	.....	.....	.....	.....	.....	.....
Northumberland	22	21	1	.....	.....	.....	.....	.....	1	.....
Ontario	62	62	.....	.....	.....	.....	.....	.....	.....	.....
Oxford	26	23	3	.....	.....	1	.....	.....	.....	2
Peel	11	11	.....	.....	.....	.....	.....	.....	.....	.....
Perth	20	20	.....	.....	.....	.....	.....	.....	.....	.....
Peterboro	14	12	2	.....	.....	.....	.....	.....	2	.....
Prescott	13	13	.....	.....	.....	.....	.....	.....	.....	.....
Prince Edward	16	11	5	.....	1	.....	1	.....	3	.....
Renfrew	37	37	.....	.....	.....	.....	.....	.....	.....	.....
Russell	21	20	1	.....	1	.....	.....	.....	.....	.....
Simcoe	54	54	.....	.....	.....	.....	.....	.....	.....	.....
Stormont	22	22	.....	.....	.....	.....	.....	.....	.....	.....
Victoria	19	19	.....	.....	.....	.....	.....	.....	.....	.....
Waterloo	22	21	1	.....	.....	.....	.....	.....	1	.....
Welland	4	3	1	.....	.....	.....	1	.....	.....	.....
Wellington	32	32	.....	.....	.....	.....	.....	.....	.....	.....
Wentworth	17	17	.....	.....	.....	.....	.....	.....	.....	.....
York	56	56	.....	.....	.....	.....	.....	.....	.....	.....
Outside Points.										
Muskoka	3	3	.....	.....	.....	.....	.....	.....	.....	.....
Parry Sound	2	2	.....	.....	.....	.....	.....	.....	.....	.....
Algoma	1	1	.....	.....	.....	.....	.....	.....	.....	.....
Quebec	4	4	.....	.....	.....	.....	.....	.....	.....	.....
Alberta	1	1	.....	.....	.....	.....	.....	.....	.....	.....
Total	1,082	1,045	37	2	7	4	3	2	1	4

NOTE.—In cases where there are more causes for rejection noted than Stallions rejected, is accounted for by the fact, when inspected some Stallions were rejected for more than one cause.

SUMMARY FOR THE PROVINCE OF ONTARIO SHOWING BY COUNTIES THE NUMBER OF THE DIFFERENT BREEDS OF STALLIONS ENROLLED.

County.	Clyde.	Per.	Shire.	Hack.	St. Bd.	Thor.	Pony.	Belg.	Ger. Ch.	Fre. Ch.	Fre. Can.	Any other breed.	Grades.
Brant	10	5	....	....	1	....	....	1	....	....	....	....	11
Bruce	55	4	4	....	4	1	....	....	....	....	....	....	35
Carleton	27	4	1	1	1	....	....	....	....	....	....	....	31
Dufferin	32	4	....	2	....	1	....	....	....	1	....	....	11
Dundas	13	4	....	5	2	....	....	1	....	....	....	....	19
Durham	32	1	....	3	2	....	....	2	1	....	....	1	18
Elgin	11	5	4	2	6	3	....	....	1	....	....	1	32
Essex	20	10	4	1	2	1	....	2	....	....	....	....	29
Frontenac	5	2	....	1	4	....	....	....	....	....	....	....	19
Glengarry	12	4	....	2	2	....	....	....	....	....	....	....	14
Grenville	4	4	3	....	4	....	....	....	....	1	....	....	21
Grey	69	5	....	1	4	2	....	1	....	1	....	....	25
Haldimand	14	2	1	1	5	....	....	....	....	....	....	....	24
Halton	10	5	3	....	....	2	....	....	....	....	....	....	7
Hastings	11	4	....	1	4	....	....	....	....	....	....	1	61
Huron	55	9	9	1	7	....	....	....	....	....	....	....	31
Kent	36	24	6	1	19	....	....	3	....	....	....	1	40
Lambton	67	3	5	1	10	....	....	1	1	....	....	....	25
Lanark	21	3	3	4	4	....	....	1	....	....	....	....	22
Leeds	7	6	1	1	2	....	....	....	....	1	....	....	32
Lennox and Addington	5	7	1	1	1	....	....	....	....	....	....	....	30
Lincoln	6	5	....	1	1	....	....	....	....	....	....	....	14
Middlesex	63	9	1	1	14	2	....	....	2	....	....	....	36
Norfolk	21	12	....	3	3	....	....	....	....	....	....	....	18
Northumberland	23	3	....	....	1	3	....	....	....	....	....	....	20
Ontario	68	5	....	4	8	....	....	....	....	....	....	....	16
Oxford	36	4	1	2	5	2	....	1	1	....	....	....	2ɔ
Peel	31	3	3	2	1	3	....	....	....	....	....	....	9
Perth	55	3	2	1	3	1	....	....	....	....	....	....	16
Peterboro	16	7	....	....	1	....	....	....	....	....	....	....	22
Prescott	9	2	....	....	1	....	....	....	....	....	....	....	34
Prince Edward	6	3	....	....	2	1	....	....	....	....	....	....	17
Renfrew	26	12	3	2	3	2	....	....	....	1	1	....	35
Russell	17	1	1	....	1	....	....	....	....	1	....	....	18
Simcoe	70	14	....	5	8	....	....	1	....	....	....	....	41
Stormont	9	3	1	....	1	....	....	....	....	....	....	....	18
Victoria	28	2	1	....	1	1	....	....	....	....	....	....	15
Waterloo	28	5	1	1	....	....	....	....	....	....	....	....	13
Welland	1	2	3	....	2	....	....	2	....	....	....	....	7
Wellington	62	7	3	1	1	3	....	....	....	....	....	1	26
Wentworth	15	2	1	1	4	1	....	....	....	1	....	....	25
York	62	14	3	4	8	2	....	....	....	....	....	1	25
Outside Points.													
Muskoka	4	....	....	....	....	....	....	....	....	....	....	....	2
Parry Sound	3	....	....	....	....	....	....	....	....	....	....	....	.....
Algoma	.....	2	....	....	....	....	....	....	....	....	....	....	1
Quebec	4	1	....	2	2	....	....	1	....	....	....	....	2
Alberta	.....	....	....	....	1	....	....	....	....	....	....	....	1
	1,178	236	69	59	156	31	....	17	6	7	1	6	993

NAMES OF MEN WHO HAVE HAD STALLIONS INSPECTED FOR YEAR ENDING JULY 31ST, 1912.

BRANT.

Men's Names. *Post Office.*

Adams, A. & M., Brantford.
Almas, W., Brantford.
Brown, J., Harley.
Clement, Sanford, Harley.
Curley, W. H., Hartford.
Gurney, C. W., Paris.
Haas Bros., Paris.
Hager, O., Conboyville.
Hall, James and Mary, Brantford.
Kerr, W. H. & Son, St. George.
Rogerson, G., St. George.
Rosebrugh & Osborne, St. George.

BRUCE.

Airth & Co., Wm., North Bruce.
Armstrong, G. B., Teeswater.
Avery, E. J., Armow.
Baker, Con., Belmore.
Cahoon, J. B., Solway.
Chebott, A., Elsinore.
Culbertson, W., Ripley.
Gammie, A., Burgoyne.
Gladstone, J., Wiarton.
Graf, M., Formosa.
Good, Levi, Greenock.
Haug, T. E., Chesley.
Hewitson, John, Allanford.
Huck, W. H., Mildmay.
Jamieson, G. M., North Bruce.
Johnston, A., & Campbell, D., Ripley.
Kinmond, R., Tiverton.
Matheson, M., Ripley.
McArthur, P., Lovat.
McComb, S., Bervie.
McLean, A. J., Burgoyne.
McTavish, R., & Wylie, Verdun.
Moffat, J., Teeswater.
Putnam & Cavers, Owen Sound and Tara.
Putnam, Saul, Tara.
Robertson, S. E., Lucknow.
Rody, M., Malcolm.
Symon, A., Glammis.
Scott, Thomas G., Tiverton.

CARLETON.

Armstrong, A., Marathon.
Armstrong, Robt., Marathon.
Belford, James, Bell's Corners.
Boyd, D. G., Kars.
Burke, T., South March.
Byrne, P. A., Kinburn.
Hand, T. A., Hazeldean.
Hanna, J., & Son, Kinburn.
Hurdman, W. P., Hurdman's Bridge.
Lewis, G. E., North Gower.
Nixon, R. F., Osgoode Station.
Pressley, R., Ashton.
Pyper, John S., Waller.
Rothwell, B., Ottawa.
Todd, John S., Twin Elm.
Wilson, W. K., Manotick.

DUFFERIN.

Men's Names. *Post Office.*

Bell, James H., Laurel.
Brown, James, Grand Valley.
Clayton, William, Corbetton.
Colley, A. & E., Grand Valley.
Dunseath, T. W., Honeywood.
Ferris, A. & Sons, Stanton.
Fletcher, George, Rosemont.
Gibson, James R., Orton.
Hall, W. H., Whitfield.
Hamilton, T. H., Grand Valley.
Hunter, John J., Rosemont.
Hunter, H., Mulmur.
Morgan, C. L., Shelburne.
Mowat, John, Shelburne.
Mowat, J., Shelburne.
Newson, A., Grand Valley.
Orangeville Breeders' Soc., Orangeville.
Ormsby, R. J., Perm.
Platt, S. T. & J. H., Grand Valley.
Platt, S., Grand Valley.
Ransom & Duncan, Orton.
Smith, W. E., Laurel.
Teeter, N., Waldemar.
Thompson, N., Orangeville.

DUNDAS.

Allison Bros., Chesterville.
Allison, J. W., Morrisburg.
Barkley, Henry C., South Mountain.
Casselman, E., Morrisburg.
Christie, Ira, & Sons, Winchester.
Crowder, W., Inkerman.
Hanson, H., Brinston.
Irving, Thomas, Winchester.
Lannin, Geo., South Mountain.
Mink, R., Morrisburg.
Percheron Stallion Ass'n., Mountain.
Prunner, G. S., Froatburn.
Reddick Bros., Morrisburg.
Sharra, G. G., Brinston.
Thom, Alex., Morrisburg.
Watts, E. E., Winchester.
Williamsburg Per. Horse As., Beckstead.

DURHAM.

Allen, F., Newcastle.
Anderson, Henry, Janetville.
Beith, R., Bowmanville.
Devitt, S. A., Burketon.
Henders, H., Yelverton.
Hyland, T., Burketon.
McGill, H., Yelverton.
Penfound, Simon, Courtice.
Power, Chester, Bowmanville.
Rowan, J. A., Caesarea.
Sanders, A., Leskard.
Soper, G. W., & Sons, Kendal.
Soper, G. W., Bowmanville.
Staples, W. H., Cavan.
Staples, J. F., Ida.
Thornton, McIntyre, Janetville.
Wilson, A. W., Lifford.

ELGIN.

Men's Names. *Post Office.*

Bradley, John, Aylmer.
Carter, J., Kingsmill.
Caldwell, J. E., Vienna.
Charlton, S., Springfield.
Duncanson, A. G., Dutton.
E. Elgin Thor. Ass'n., Aylmer.
Elgin Coach Horse Ass'n., Aylmer W.
Glasgow, C. E., Port Stanley.
Hill, J. W., Port Burwell.
Howe, James, Jr., Straffordville.
Leach, Frank, St. Thomas.
Lodge, James, Dutton.
Mabee, Ira D., Aylmer.
Millard, J. E., Calton.
McGeachy, A. D., & Black, J. D., Dutton.
Nickerson, W. H., Vienna.
O'Malley, Geo. H., West Lorne.
Sloan, W. A., Wallacetown.
Stoner, A. E., Aylmer.
Spence, J., & Son, Rodney.
Swan, Walter, Port Burwell.
Watson, A., St. Thomas .
Williams, J. H., Vienna.

ESSEX.

Affieck, R., Harrow.
Ash, George, Cottam .
Atkin, N., North Malden.
Beattie, Thos., Comber.
Bondy, A. & C., Harrow.
Coulter, J. A., Essex.
Fox, W. J., Blytheswood.
Johnston, Jas., Ruthven.
Kendrick, James, Essex.
Knister, Robt. R., Comber.
Knister, E., Comber.
Laframborse, Alex., Pilette Corners.
Mallett, J. D., Ruthven.
Mellow, J. A., Strangfield.
Paquette, Samuel, McGregor.
Pinkerton, R. B., Essex.
Potter, F. T., Maidstone.
Renard, Rene, Canard River.
Rymal, H., Leamington.
Upcott, Hermon, Leamington.
Wigle, L., Leamington.

FRONTENAC.

Bulock, J., Kilbirnie.
Charlton, N., Harrowsmith.
Clow, O. R., Parham.
Darragh, G., Kingston.
Day, E. E., Harrowsmith.
Ferris, J. P., Bath Road.
Greenlee, J., Cushendall.
Keys, P., Joyceville.
McCue, John, Kingston.
Nicholson, T. K., Kingston.
Shillington, W., Cole Lake.
Sleeth, W. W., Battersea.
Smith, George, Harrowsmith.
Storrington Stock Co., Sunbury.
Whitty, Edward, Hartington.

GLENGARRY.

Men's Names. *Post Office.*

Eamer, W., Cashion's Glen.
Fitzgerald, M. & J. Kerr, Alexandria.
Greenfield Per. Ass'n., The, Greenfield.
Kippen, J. R., Greenfield.
Loynachan, A. D., Glenbrook.
McDonell, H. A., Apple Hill.
McLeod, D., Dalkeith.
Robertson, H. A., Martintown.
McCrimmon, P. & D., Williamstown.

GRENVILLE.

Adams, W. J., Kemptville.
Anderson, Jos., Brouseville.
Bradley & Kingston, Prescott.
Crites, J., Brouseville.
Cusick, F. J., Merrickville.
Goodin, Jos., Spencerville.
Griffin, T. M., Kemptville.
Henry, Ben., Kemptville.
Hunt, Beach, Kemptville.
Hyndman, J. A., Hyndman.
Joynt, S., Merrickville.
Kelso, Hugh, Roebuck.
Latourell, W. H., South Gower.
Prescott Syndicate, Prescott.
Wallace, J., Jr., Shanly.
Warren, Wm., Cardinal.
Wright, Bowman, Domville.

GREY.

Acheson, W. G., Proton Station.
Alexander, Jos. E., Clarksburg.
Arnott, J., Feversham.
Baker, J. H., Bayview.
Brock, Chris., Owen Sound.
Buzza, McReynolds, & Paterson, Owen Sound.
Calder, Alex., Holstein.
Crowston, J. A., Markdale.
Eby, Isaac, Hanover.
Findley, John, Meaford.
Foster, W., Markdale.
Fritz, Henry, Hampden.
Frook, Louis, Priceville.
Groat, Wm., Holstein.
Grummett, R., Wareham.
Hanover Per. Horse Ass'n., Hanover.
Henderson, Geo., Keady.
Julian, J. W., Heathcote.
Kerr, Jno. F., & Sons, Heathcote.
Lever, W. J., Flesherton.
Lougheed, Wm., Holstein.
Mercer, Thos., Markdale.
McCloud, D., Flesherton.
McKenzie, J. A., Presque Isle.
Myles, J. A., & Co., Heathcote.
Nichol, J. C., Durham.
Palmer, Chas., Dundalk.
Paton, Jas., Proton Station.
Walpole, T. N., & G. McKechnie, Durham.
Whiteoak, G. H., Feversham.

HALDIMAND.

Men's Names. *Post Office.*

Alward, W., Hagersville.
Arrell, J. T., Caledonia.
Bloomfield, G. E., Canboro.
Crunch, A. P., Dunnville.
Drinkwater, I., Rainham Centre.
Dunnville Per. Horse Ass'n., Dunnville.
Follick, J. E., Dunnville.
Forbes, A., Kohler.
Garner, H. K., Canfield.
Gilbertson, J., Hagersville.
Gilbertson, G., Hagersville.
Mehlenbocker, J., Fisherville.
Michener, M., Dunnville.
Montague, Nichol & Martin, Jarvis.
Nablo Bros., Fisherville.
Nagel Bros., Rainham Centre.
Patton, Chas., Dunnville.
Smelcer, I. J., Caledonia.
Smith, J., North Seneca.
Tanner Bros., Caledonia.
Wadsworth, J., Selkirk.
Weil & Hewson, Jarvis.
Williamson, W. E., Hagersville.
Wood, M. A., Nanticoke.

HALTON.

Alton, W. E., Nelson.
Anderson, J. R., Acton.
Bell, G. A., & Son, Nelson.
Bingham, J., Georgetown.
Breckon, J., Appleby.
Lucas, J. E., Palermo.
McCready, W., Milton.
McGibbon, John D., Milton W.
Moffatt, T., Acton.
Morden, G. E., Oakville.
Porter Bros., Appleby.
Ruddell, S. K., Ashgrove.
Telfer, Jos., Milton W.

HASTINGS.

Ashley Stock Farm, Foxboro.
Brown, James, Marlbank .
Burley, W. J., Marlbank.
Carson, John, Stoco.
Cook, H., Trenton.
Comerford, F. A., Eldorado.
Cooney, W., & J. Waring, Madoc.
Dunning, S. W., Plainfield.
Flynn & McCollough, Marmora.
Hagarty, W. J., Stirling.
Hagarty, J. T., Stirling.
Hanna, W. F., Stirling.
Hendrick, A. J., Frankford.
Irwin, James, Sarginson.
Ivanhoe Syn. (W. J. Jeffray, Sec.), Ivanhoe.
Ketcheson, W. C., Holloway.
McAlister, J. S., Kingsford.
McGowan, Jas., West Huntingdon.
Miller, W. A., Madoc.
Nickle, T. L., & J. O'Riley, Madoc.
Patsway, John, Maynooth.

Men's Names. *Post Office.*

Ray, Samuel, Ivanhoe.
Robinson, F. J., Halston.
Ryan, Thomas, Harold.
Shaw, J. W., Tweed.
Sharp., J. T., Wellman's Corners.
Stirling Clydesdale Ass'n., Stirling.
Vermilyea, N., & Sons, Belleville.
Whalen, D., Stoco.
Wellman, G. F., Marmora.

HURON.

Berry, W., Brucefield.
Berry, James, Egmondville.
Berry, T. J., Hensall.
Chambers, John, Chiselhurst.
Ferguson, G. J., Loyal.
Ferguson, G. J., Saltford.
Gray, J. & W., Londesboro.
Johnston, Wm., Blyth.
Regan Bros., & W. Witzel, Khiva.
Robinson, Peter, Lochalsh.
Smillie Bros., Brucefield.
Scott Bros., Belgrave.
Tapp, Wm., Exeter.
Wilson, Robert, Goderich.
Witzel, W., & Son, Khiva.

KENT.

Attridge, G. A., Muirkirk.
Bishop, F., Wallaceburg.
Brewer, Henry, Bothwell.
Brend & Towl, Chatham.
Burgess, Wm., Wallaceburg.
Burns, F. R., Tupperville.
Carr, J. A. & J. H., Dresden.
Carson, Ed., Paincourt.
Coates, R. C., Thamesville.
Cramer, J. M., & Son, Wallaceburg.
Crummer, W. C., & J. T. Saint, Wallaceburg.
Delve, R. G. & G. J., Dresden.
Dingman, A., Wallaceburg.
Doolittle, J. E., Bear Line.
Dolittle, J. E. & J. A., Bear Line.
Drury, F., & Son, Charing Cross.
Edmonds, L. H., Blenheim.
Elgie, J., & Son, Dresden.
Elgin, W. C., Dresden.
Farnsworth, S., Dresden.
Fysh, D. N., Thamesville.
Hales, John, Chatham.
Hall, David, Merlin.
Harper, S. H., Tupperville.
Hind, E., & Son, Bear Line.
Hodgson, I. R., Tupperville.
Howard, Hackney Co., Thamesville.
Huff, E., Tupperville.
Jackson, Louis, Wallaceburg.
Johnston, Leslie, Harwich.
Lane, W. S., Whitebread.
Lethbridge, S., Chatham.
Luke, Chas., Bothwell.
Marshall, L. B., Merlin.
McCall, C. M., Thamesville.
McCracken, J. B., Blenheim.

Men's Names. *Post Office.*

McDougall, A., Rondeau.
McEachren, S., Mull.
Moore, Freeman, Dresden.
Mowbray, J., Thamesville.
O'Neill, T. F., Dresden .
Pickering, W., Chatham.
Pinder, J. G., Blenheim.
Richards, J., Dresden.
Rosebrughm, Richard, Chatham.
Ross, W. J., Chatham.
Selton Clydesdale Co., Thamesville.
Shaw, R. B., Wallaceburg.
Shaw, M. J., Wallaceburg.
Simpson, M., Ouvry.
Thamesville Per. Horse Br. Ass'n., Thamesville.
Whitmarsh Bros., Wallaceburg.
Wilson, G. H., Thamesville.
Wright, George, Charing Cross.

LAMBTON.

Brander Bros., Sutorville.
Burr, J. F., Waubuno.
Dodge, Jas., Wanstead.
Dupuis, J. E., Sombra.
Ferguson, J., Camlachie.
Goodison, E. F., Sarnia.
Harding, W. H., Petrolia
Hay, J. A., Becher.
Hendy, Wm., Wyoming.
James, D. W., Sarnia.
Kewley, H. D., Sarnia.
Kilmer, E., Forest.
Kingston, Skinner & Pickering, Forest.
Lambkin, E., Brigden.
Mawlan, H., Florence.
McKinley & Rawlings, Aberarder.
McLean, H., Wyoming.
McMillan, Duncan, Sarnia.
McTavish, A. F. & Son, Inwood.
Nicol, Geo., Waubuno.
Osier, Chas., Cairo.
Poole, Wm., McCreary.
Reid, W. P., Watford.
Shannon, D. & Co., Uttoxeter.
Smith, S., Warwick.
Taylor, J. P., Brigden.
Thomson, Alex., Rutherford.
Thompson, Geo., Blackwell.
Tucker, W. S., Brigden.
Watson, C. C., Brigden.
Wilson, Fred., Camlachie.

LANARK.

Allen, J. O., Perth.
Blair, N., Maberly.
Caldwell, T. B., Lanark.
Cameron Bros., Perth.
Cochran, Peter, Almonte.
Ebbs, J. & J., Perth.
Gillespie, J. J., Perth.
Hanna, A. E., Perth.
Hunter, S. H., Smith's Falls.
Johnston, J., Elliott.

Men's Names. *Post Office.*

Kerr, J. A., Perth.
Khull, H., Clayton.
Lee, John, Tatlock.
McLaren, J. L. P., Perth.
McMillan Bros., Perth.
More, W. R., Almonte.
Nichols, W. A., Carleton Place.
Patterson, G. & W., Almonte.
Stewart, A., Almonte.
Stewart, J., Almonte.
Taylor, G. B., Middleville.
Thompson, D. J., Lloyd.

LEEDS.

Acton, W. H., Gananoque.
Baker, Chas., Frankville.
Comstock, W. H., Brockville.
Dempster & Co., Gananoque.
Eaton, C. M., Toledo.
Ferguson, John, Sand Bay.
Foley, J. R., Lansdowne.
Freeman, M. J., Elgin.
Freeman, Thos., Jones Falls.
Front of Leeds & Lansdowne Percheron Horse Syndicate, The, Gananoque.
Gainford, J., Seely's Bay.
Goff, A. E., Gananoque.
Griffin, G. H., Whitehurst.
Hadigan, D. J., Mallorytown.
Hardy, A. C., Brockville.
Hollingsworth, T., Yonge Mills.
Lansdowne Horse Syndicate, Lansdowne.
Latimer, W. J., Lansdowne.
Marshall, M. D., Toledo.
McCaw, J. F., Brockville.
McFadden, D., Westport.
Metcalfe, W. J., Seely's Bay.
Moulton, T., Chantry.
Oak Leaf Horse Breeders' Association, Oak Leaf.
Percheron Horse Breeders' Association, The, Elgin.
Prior, Joseph, Elgin.
Richards, W. G., Frankville.
Shelden, Alex., Lyndhurst.
Tackaberry, J. F., Mallorytown.
Warren, B., Rockfield.
Whitmarsh, John, Westport.

LENNOX AND ADDINGTON.

Blanchard, J. B., Napanee.
Fenwick, J. E., Napanee.
Frink, W. H., Odessa.
Hagerman, E. L., Fellows.
Hamm, D., Napanee.
Hunt, P., Erinsville.
Hunter, W. H., Napanee.
Lennox Percheron Horse Association, Selby.
McFarland, D. W., Roblin.
Milligan, A. E., Tamworth.
O'Neil, Norman, Gosport.
Parks, A., Napanee.
Potter, W. A. & Sons, Moscow.

Men's Names. *Post Office.*

Preston, W. H. & A. E. Howard, Stella.
Schoolcraft, W., Tamworth.
Simmons, S., Wilton.
Vanalstine, J. H., Napanee.
York, F. & E. Harrison, Tamworth.
Young, Robert, West Plain.

LINCOLN.

Bray, Thomas, St. Catharines.
Caughell, G. & Co., Wellandport.
Claus, C. H. & Sons, St. Catharines.
Larkin, John D., Queenston.
Mittlefehldt, A., Elcho.
Warner, D. F. & F. A. Stewart, St. David's.
Young, Stanley, Abingdon.

MIDDLESEX.

Brown, Robert, Wilton Grove.
Carruthers, C. A., Mount Brydges.
Carson, S., Cashmere.
Clark, J., Nairn.
Doan Bros., Parkhill.
Faulds, W. M., Muncey.
Graham, Long & Baisle, Ilderton.
Griffith, John, Hubrey, R. R. 9.
Guest, G. & Sons, Hyde Park.
Guest & Wilkinson, Ballymote.
Hardy, T. F., Melbourne.
Jackson, David, Pond Mills.
Knight, A. P., Parkhill.
Lamont, J. A., Wardsville, R. R. 9.
Longfield, J. H., Crampton.
McFarlane, R. E., Crampton.
McLean, D. A., Melbourne.
McIntyre & Webster, Appin.
McVitty, S. R., Muncey.
Merrick, C., Glen Willow.
Raison, Harry, London
Robson, T. E. & H. C., Ilderton.
Rosser, C. T. & T. A., Denfield.
Rossiter, A., Crampton.
Ryan Bros., Lucan.
Shore, W. H., Glanworth.
Showers, James, Melbourne.
Small, R. A., Komoka.
Sutherland, R. A., Dorchester Station.
Wilkinson & Guest, Fanshawe.

NORFOLK.

Anderson, Elmer, Lynedoch.
Beickler Bros., Vittoria.
Collings, T. H., Langton.
Dalton, Richard, Delhi.
Downing, H., Simcoe.
Erwin, Albert, Villa Nova.
Finch, John, Clear Creek.
Hawthorne, John, Simcoe.
Herron, R. J., Windham Centre.
McPherson, J., Delhi.
Mansfield, M. & F. Thompson, Erie View

Men's Names. *Post Office.*

Mason, E., Bloomsburg.
Rockefeller, Delbert, Port Rowan.
Sinden, Wm., Lynedoch.
Soper, Rolla, Guysboro.
Stuart, A. T., Tyrrell.

NORTHUMBERLAND.

Anderson, J. C., Morganston.
Behan, M., Cobourg.
Bertrand, Robt. & Son, Campbellford.
Blodgett, A., Centreton.
Budd, Edward, Precious Corners.
Bull, O. A., Warkworth.
Carew, Wilfrid, Roseneath.
Carruthers, A., Harwood.
Comstock, Peter H., Campbellford.
Coom, C. W., Trent River.
Dingman, W., Oak Heights.
Earl, Sidney, Colborne.
Isaac, Alex., Cobourg.
Kennedy, J., Harwood.
Knight, R. T., Castleton.
Macoun, Locke & Co., Campbellford.
Partridge, William, Brickley.
Poole, J. N., Meyersburg.
Post, Walter, Polmont.
Ross, W. J., Meyersburg.
Stewart, J. A., Sr., Menie.
Taylor, D. H., Centreton.

ONTARIO.

Burnham, Geo., Zephyr.
Cameron, A., Oshawa.
Castor, T., North Claremont.
Collins, W. A., Sunderland.
Cowan, W. J., Cannington.
Davidson, J., Ashburn.
Defoe, Robert, Green River.
Graham, J. W., Unionville.
Graham Bros., Claremont.
Groat, Chas., Brooklin.
Henders, W. J., Port Perry.
Hepburn, C. E., Beaverton.
Hodgkinson & Tisdale, Beaverton.
Johnston, D. M., Myrtle Station.
Kelly & Gaughan, Brechin.
Ledgett, Lou, Kinsale.
Lyons & Brabazon, Blackwater Junction
Marshall, K. R., Dumbarton.
McFarlane, J. M., Sonya.
McLeod, J., Brechin.
McRae, Finlay, Beaverton.
McRae, Donald, Beaverton.
Ormiston, Wm. & Sons, Brooklin.
Pugh, W. H., Claremont.
Pugh, S. H., Glen Major.
Richardson, L., Ashburn.
Smith & Richardson, Columbus.
Taylor, Wm., Port Perry.
Thompson, Henry, Zephyr.
Wagg, John, Goodwood.
Warren, J., Brechin.

OXFORD.

Men's Names.	*Post Office.*
Adair, M. E.,	Cornell.
Anderson, R. P.,	Ostrander.
Baker, James,	Chesterfield.
Brown, W. G.,	Bright.
Campbell, W. J.,	Embro.
Chamberlain, R. J.,	Bright.
Cressman, Eli,	Plattsville.
Dean, A. E.,	Hawtrey.
Grover, R. H.,	Princeton.
Halpin, M.,	Ingersoll.
Jackson, S. W.,	Woodstock, R. R. No. 3.
James, Ephraim,	Norwich.
Knox, J. W.,	Ingersoll.
Lingelbach, W. & H.,	Tavistock.
McCorquodale, W. M.,	Harrington West.
McIntosh, Donald,	Embro.
Palmer, H. H.,	Norwich.
Parker, W. P.,	Cassel.
Percheron Horse Assn.,	Thamesford.
Sharon, J.,	Woodstock.
Treffrey Bros.,	Hawtrey.
Wagster, Wm.,	Tavistock.
Wettlaufer, Geo.,	Cassel.
Zinn, John,	Innerkip.

PERTH.

Bailey, F.,	St. Marys.
Brooks, J. E.,	Mitchell.
Fischer, W.,	Stratford.
Forsyth, M.,	Mitchell.
Gropp, G.,	Milverton.
Hodge, W.,	Mitchell.
Keast, C. N.,	Science Hill.
Livingston, J.,	Staffa.
Murray, J.,	Kinkora.
Mossip & Baden,	St. Marys.
Mossip, W.,	St. Marys.
Muir, James,	St. Marys.
Riehl, Fred.,	Sebringville.
Stacey, John E.,	Mitchell.
Steinacker, John,	Sebringville.
Thompson, Andrew,	Trowbridge.
Wood, J. W.,	St. Marys.

PEEL.

Bailey, W. G.,	Campbell's Cross.
Bell, G. & W. Fendey,	Brampton.
Bovaird, J.,	Brampton.
Cheyne, Robt. H.,	Brampton.
Cooke, Henry W.,	Streetsville.
Elliott, T. D.,	Bolton.
Hewson, A.,	Malton.
Lansdell, R. J.,	Snelgrove.
Patterson, J. H. & A.,	Summerville.
Robinson, H.,	Erindale.

PETERBORO.

Baptie, James,	Springville.
Brackenridge, N. M.,	Wallace Point.
Burke, F. H.,	Peterboro.
Cox, W. J.,	Peterboro.

Men's Names.	*Post Office.*
Crough, M. S.,	Ennismore.
Dickson, J.,	Indian River.
Elmhirst, W. & H.,	Indian River.
Houston, Gilbert & T. Beatty,	Keene.
Nesbitt, A. & Son,	Westwood.
O'Brien, Maurice,	Peterboro.
Walsh, R.,	Hastings.
Whittington, W.,	Bensfort.
Wildman, J. T.,	Norwood.
Young, John,	Ennismore.

PRESCOTT.

Boileau, Joseph,	Plantagenet Springs.
Byers, W. E. N. & Sons,	Stepney.
Campbell, T.,	Vankleek Hill.
Lalonde, N., Alfred.	
McCaskill, J. A.,	Barb.
McCaskill, Kenneth,	Vankleek Hill.
Molloy, Edmund,	Fournier.
Ogden, D. A.,	Stardale.
Portelance, O.,	St. Eugene.
Portelance & Villeneuve,	St. Eugene.
Ryan, G. A.,	Riceville.
Wilks, A.,	Fournier.

PRINCE EDWARD.

Anderson, G. W.,	Rossmore.
Benson, Sheldon Y.,	Elmbrook.
Boles, D. P.,	Picton.
Boulter, G. E.,	Picton.
Brickman, J. W.,	Rednersville.
Clapp, Thos.,	Milford.
Cole, S. A.,	Milford.
Graves, Walter,	Demorestville.
Jackson, F. E.,	Picton.
McCaw, J.,	Milford.
McDonell, H. A.,	Apple Hill.
Pine, Silvester,	Allisonville.
Pine, Washington,	Allisonville.
Titus, Gregg,	Mountain View.

RENFREW.

Aubrey, A.,	Renfrew.
Barr, David, Jr.,	Renfrew.
Bennett, J. P.,	Cormac.
Brennan, John,	Arnprior.
Byrne, J. R.,	Arnprior.
Cameron, A. W.,	Beachburg.
Cameron, D.,	Arnprior.
Christman, L. O.,	Beachburg.
Culligan, P.,	Douglas.
Dinnigan, Thos.,	Killaloe.
Frivalt, Daniel,	Pembroke.
Graham, Robert,	Renfrew.
McLaren, John,	Cobden.
McLaren, Robert,	Dunmore.
McGillis, A. J.,	Pembroke.
Miller, A. & Sons,	Arnprior.
Nesbitt, J. G.,	Arnprior.
Noack, William,	Killaloe.
O'Brien, M. J.,	Renfrew.
Sheady, Martin,	Osceola.
Smith, L.,	Stewartville.

Men's Names. *Post Office.*

Stafford & Allen, Renfrew.
Stafford, M. T., Renfrew.
Strutt, Robert, Pembroke.
Virgin, Chas., Dunmore.
Williams, W. H., Pembroke.
Zohr, Leo, Golden Lake.

RUSSELL.

Campbell, Donald, Russell.
Cayer, J. B. & Co., St. Albert.
Eadie, J. D., Vars.
Gascon, C., Sarsfield.
Gendron, Oscar, Bourget.
Herrington, Thos. E., Pana.
O'Neill, Joseph, Navan.
Ouellette, Joseph, Sarsfield.
Perrier, Lenord, Casselman.
Quesnel, Amable, Casselman.
Roy, Joseph, Benoit.
Sequin, X., St. Onge.
Wilson, Howard, Russell.

SIMCOE.

Adamson, H., Edenvale.
Barnhardt, J. M., Oro Station.
Barrie Clydesdale Assn., Barrie.
Bell, Neil, Stayner.
Bellamy, A. & E., Stayner.
Boag, H. G., Barrie.
Brooks, A., Bondhead.
Bruce, James, Egbert.
Campbell, A. J., Duntroon.
Copeland, T., Newton Robinson.
Coughlin, J. J., Anten Mills.
Cousins, Albert, Alliston.
Dwyer, W. J., Arlington.
Edwards, Wm., Elmvale.
Ellison, R. M., Penville.
Fleming, R., Stayner.
Fitzgerald Bros., Mount St. Lewis.
Gignac, J. L., Perkinsfield.
Graham, A. C., Hawkestone.
Graham, Wm., Barrie.
Hastings, Ira, Tuam.
Hodgson, Cooper, Beeton.
Hodgson, T., Orillia.
Hume, Jas. Trent, Allandale.
Kearnan, J., Angus.
Kissock, S., Oro Station.
Lamont, John, Stayner.
Maurice, Edmond, Lafontaine.
Milsap, D. S., Stayner.
McDevitt, Jas., Dunkerron.
McGill, J., Alliston.
McWaters, John, Waverley.
Murphy, Jas. S., Arlington.
Pridham, J., Arlington.
Readman, J. H., Cookstown.
Ritchie, W. L., Saurin.
Rusk, Jas., Alliston.
Smith, W. H., Barrie.
Speirs, Alex., New Flos.
Sullivan, C. D., Jarratt.
Sutherland, J. Bondhead.

Men's Names. *Post Office.*

Thompson, R. J., Stayner.
Trombley, Fred., Lefaive's Corners.
Wilson, G. C., Coldwater.
Willson, H. S., Angus.
Wise, Henry, Craighurst.
Woolsley, Garnet, Angus.

STORMONT.

Aultsville Syndicate, The, Aultsville.
Baker, J. H., Newington.
Brown, W. G. & G. M., Cornwall.
Brunet, F., Moose Creek.
Bush, C., Dixon.
Cloutier Bros., Crysler.
Cook, M. M., Aultsville.
Crowe, W., Cannamore.
Devaney, M., Connaught.
Ferguson, J. P., Osnabruck Centre.
Joynt, C., Newington.
Markell, M., Aultsville.
McColl, Wm., Harrison's Corners.
McRae, Nelson, Moose Creek.
Meek, W. A., Harrison's Corners.
Paul, W. & A., Crysler.
Quail, Chas., Moncklands.
Robert, A. M., Crysler.
Runions, J. E., Mille Roches.
Sirvage, James, Crysler.

VICTORIA.

Aldous, J., Fenelon Falls.
Austin, Wm. E., Fenelon Falls.
Beggs, R., Cameron.
Black, T. J., Glenarm.
Brock, John, Lindsay.
Cann, F., Oakwod.
Carew, John, Lindsay.
Chrysler, Silas, Dartmoor.
Curtis, Geo. W., Lindsay.
Gunn, Wm., Norland.
Hickson, J. & J. Carew, Mount Horeb and Lindsay.
Humphries, J. J., Bobcaygeon.
Jacobs J & T. G. Calvert, Omemee.
Kearns, W., Omemee.
McKenzie, J. M., Kirkfield.
Morrison, Peter, Argyle.
Taylor, James, Oakwood.
Walden, T. H., Lindsay.

WATERLOO.

Beggs, W. J. & Son, Linwood.
Bock, G. & J. Shantz, New Dundee.
Boettinger, Milton, Bridgeport.
Brubacker, Samuel, Berlin.
Eby, Geo., Breslau.
Forwell, Geo., Hawkesville.
Fried Bros., Roseville.
Gruelick, Joseph, New Dundee.
Martin, N., St. Jacob's.
Meyer, J. S., St. Clements.
Miller, J. W., Elmira.
Musser, P. R., Elmira.

Men's Names. *Post Office.*

Shantz, J. & G. Buck, Berlin and New Dundee.
Sherriffs, W. A., Winterbourne.
Steinman, J., New Hamburg.
Stevernagal, Wm., Elmira.
Turnbull, A., Branchton.
Wilkes, Miss A. L., Galt.

WELLAND.

Chambers, Harvey, Chantler.
Coan, J. P., Niagara Falls.
House, Geo. F. & Son, Stevensville.
Meyer Bros., Chippawa.
Sexsmith, M. W., Ridgeway.

WELLINGTON.

Aitchison, J., Ariss.
Beaver, Peter, Morriston.
Clark & Kennedy, Moorefield.
Currie, A. E., Ospringe.
Devlin, H. & Sons, Guelph.
Dickieson, R. & Sons, Ariss.
Eicholz, A., Clifford.
Esson, A., Belwood.
Fleet, H. & J., Glen Allan.
Hauser, I. & G. Schell, Ariss.
Hurren, A., Ospringe.
Leslie, H. S. & Bro., Eden Mills.
Maurer, Jacob, Clifford.
McEwan, James, Clifford.
McGillicuddy, M. J., Kenilworth.
McKinnon, D. & Sons, Hillsburgh.
Moore, S. H., Mount Forest.
Overland, R., Hillsburgh.
Ray, Colin, Mount Forest.
Richardson, J., Harriston.
Ross, J. M., Ariss.
Ross, J., Ariss.
Sargent, Henry, Belwood.
Schaus, P. W., Clifford.
Weatherston, J., Everton.
Weatherston, J. D., Puslinch.
Wilson, G. E., Belwood.

WENTWORTH.

Baker, W. E., Hamilton.
Baird, Richard, Hamilton.
Calder, J. B., Carluke.
Donaldson, Alex., Binbrook.
Dorr, Henry, Hamilton.
Hanley & Labarr, Ancaster.
House, D. A., Alberton.
Johnson, Emerson, Binbrook.
Linfoot, J. H., Hamilton.
Mann, M. C., Westover.
Martin, I., Binbrook.
Moore, F., Tyneside.
Nichols, W. H., Hamilton.

Men's Names. *Post Office.*

Saunders, G. W., Jerseyville.
Sealy, O., Hamilton.
Woodley, W. & Sons, Dundas.

YORK.

Agar, Amos, Nashville.
Archable, W., Udora.
Bell, John, Lloydtown.
Boag, J. A. & Son, Queensville.
Brander, W. T. & Sons, Hagerman's Corners.
Brodie & Fisher, Newmarket.
Brodie, G. A. & J. Fisher, Ringwood.
Canning, R., Milliken.
Davis, Robert, Mount Albert.
Devins, A., Kleinburg.
Gardhouse, J. & Sons, Highfield.
Graham Renfrew Co., Bedford Park.
Hadden, W., Virginia.
Hamilton, John, Ravenshoe.
Hancock, Fred., Udora.
Harvey, W., O'Sullivan's Corners.
Hassard, T. H., Markham.
Hill, W. G., Queensville.
Howard, W. J. & Son, Fairbank.
Kleinburg Stock Co., Kleinburg.
Leonard, James, Schomberg.
McConnachie, J., Stouffville.
Park, Chas., Vachell.
Potter, W., Lloydtown.
Prout, Geo., Cedarbrae.
Ressor, Herman C., Cedar Grove.
Scarboro Junction Clydesdale Br. Horse Assn., Scarboro.
Shields, J. B., Mount Albert.
Simpson, F. O. R., Newmarket.
Smith, A. J., Queensville.
Torrance, James, Markham.
Torrance, James & Co., Markham.
Waines, W. F., Udora.
Whitmore, G. H. & D., Edgely.
Yakley, A., Ballantrae.
York, D. R., Sutton West.

MUSKOKA.

Cruickshank, John, Springbank.
Davidson, G., Uffington.
W. H. Johns Syndicate, Gravenhurst.

PARRY SOUND.

Carr, T. F. & Sons, Trout Creek.
Thorne, Jos. P., Barnesdale.

QUEBEC.

Arnold, J. E., Grenville.
Cochrane, Geo., Fort Coulange, Pontiac.
McCauley, T. B., Hudson Heights, Que.
Poupore, J. G., Montreal, Hochelaga.

SUGGESTED AMENDMENTS TO THE ONTARIO STALLION ACT.

1. That inspection be compulsory, and in default of inspection, no stallion be allowed to stand for public service.

2. There have reached the Board, many complaints of breaches of the Act, and requests that action be taken by the Board to enforce the Act. All we could do was to inform those who complained, that any man could lay an information before a Justice of Peace. So far as we are aware, this has resulted in but a single prosecution, for the obvious reason that neighbours do not like to inform on neighbours.

Apart from the fact that inspection is not compulsory, perhaps the only fault found frequently with this legislation is that it is not enforced and the general impressions seems to prevail that the Board is in some way responsible and that in all events is looked to to see that those enrolling and submitting to inspection are protected without having to themselves, take action.

We recommend, therefore, that such numbers of special officers as may be necessary for the enforcement of the Act, be appointed.

3. In view of the fact that the Board feels that some of the stallions submitted for inspection and passed because they were free from any of the diseases mentioned in the Act, and recognized as hereditary, are very inferior individuals on account of radical defects of conformation which would quite as frequently recur in the offspring as the diseases named and be as much a menace to the interests of successful horse breeding as is hereditary unsoundness. Where such radical defect of conformation is reported by Inspectors as in the opinion of the Board would render the stallion unsuitable for use in the stud the Board be empowered to issue a certificate for such stallion which will indicate such defect or defects or that the stallion is generally defective in conformation.

4. That provision be made for the introduction of the Act in the unorganized districts of the Province in accordance with largely signed petitions from those interested in these sections.

ANNUAL REPORT

OF THE

FARMERS' INSTITUTES

OF THE

PROVINCE OF ONTARIO

1913

PART II.—MEETINGS AND STATISTICS

(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE, TORONTO)

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO

TORONTO:
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1913.

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TORONTO

KEY TO FARMERS' INSTITUTE MEETINGS, 1913-14.

ANNOUNCEMENT OF MEETINGS:

For list of special meetings to be arranged for and addressed by District Representatives, see page 20.

	Pages.	Divisions. Regular.	Supplementary.
Addington	24, 32	9	16
Brant, North	23	5 and 5 A	..
Brant, South	22, 29	4	9
Bruce, Centre	21, 26	1	1
Bruce, North	21	1	..
Bruce, South	21, 26	1	4
Bruce, West	26	..	2
Carleton	25, 33	11	18
Dufferin	30	..	11 and 13
Dundas	25, 32	10	17
Durham, East	24, 31	7	14
Durham, West	24, 31	7	14
Elgin, East	22, 28	..	8
Elgin, West	22, 23	3	8
Essex, North	22	3	8a
Essex, South	22	3	8a
Frontenac	25, 32	10	16
Frontenac, Centre	25, 32	10	16
Glengarry	25, 32	11	17
Grenville, South	25, 32	10	17
Grey, Centre	26	..	2
Grey, North	30	5	11
Grey, South	26	..	4
Haldimand	22, 29	4	9
Halton	21, 23	1 and 6	..
Hastings, East	24, 31	9	15
Hastings, North	32	..	16
Hastings, West	24, 31	9	15
Huron, East	25, 26	..	1 and 4
Huron, South	21, 27	2	6
Huron, West	21, 25	1	1
Kent, East	22	3	8
Kent, West	22	3	8
Lambton, East	21, 27	2	5
Lambton, West	22, 27	2	5
Lanark, North	25, 32	10	18
Lanark, South	25, 32	10	18
Leeds, South	25, 32	10	16
Lincoln	22, 29	4	10
Lennox	32	..	16
Middlesex, East	21, 28	2	7
Middlesex, North	21, 27	2	5
Middlesex, West	22, 28	3	7
Monck	22, 29	4	10
Norfolk, North	22, 29	3	9
Norfolk, South	22, 29	3	9
Northumberland, East	25, 31	8	15
Northumberland, West	24, 31	8	15
Ontario, North	31	..	14
Ontario, South	24, 32	7	15
Oxford, North	28	..	7

	Pages.	Divisions. Regular.	Supplementary.
Oxford, South	22, 29	3	9
Peel	24, 30	6	12
Perth, North	21, 27	2	6
Perth, South	21, 27	2	6
Peterborough, East	24, 31	8	15
Peterborough, West	24, 32	8	15
Prescott	25, 32	11	17
Prince Edward	24	9	..
Renfrew, North	32	..	18
Renfrew, South	25, 32	11	18
Russell	25, 32	11	17
Simcoe, Centre	26	..	3
Simcoe, East	23, 26, 27	5	3
Simcoe, South	23, 30	5	12
Simcoe, West	23, 26	5	2
Stormont	25, 32	11	17
Victoria, East	24, 31	8	14
Victoria, West	24, 31	8	14
Waterloo, North	23, 29	5a	10a
Waterloo, South	23, 30	5a	10a
Welland	22, 29	4	10
Wellington, Centre	23	6	..
Wellington, East	23, 30	5	12
Wellington, South	23	5	..
Wellington, West	23, 30	5	12
Union	21, 27	1	6
Wentworth, North	22, 29	4	10
Wentworth, South	22, 29	4	10
York, East	24, 31	7	13
York, North	24, 30	7	12
York, West	23, 31	6	13

PART II

FARMERS' INSTITUTES OF ONTARIO

1913-14

ANNOUNCEMENT OF SUPERINTENDENT.

This volume of the Farmers' Institute report contains announcement of meetings for the Winter Season of 1913-14, also statistical statement of the local Farmers' Institutes throughout the Province for the year ending May 31st, 1913.

In addition to the meetings announced for definite dates herein, we are planning to hold a large number of Short Courses in stock and seed judging, as well as a limited number of special meetings covering such features as fruit growing, poultry raising, dairying, etc. In addition to the regular Institute meetings you will find a list of places at which District Representatives will hold *special meetings*. While the number of Institute meetings to be addressed by delegates sent out from the Department is somewhat lessened, the special series of meetings and Short Courses will more than counter-balance any falling off in this respect.

Women's Institutes.

The past year has been one of growth and expansion in connection with the Women's Institutes. The total number of Societies in 1912-13 was 750, and the membership 22,042. There has been a considerable increase during the summer and fall in new organizations and membership. These societies are doing most effective work along lines which are gradually broadening. While the Institutes continue to give due attention to purely household matters, they are devoting more and more attention to community interests.

For a complete summary of the activities of the Women's Institute, I must refer you to the Women's Institute report, but wish to make special mention herein of the fact that during the year 1912-13 we gave systematic instruction to 1,667 persons in either cooking and food values, home nursing or sewing. This feature promises to develop into large proportions, and is much appreciated by the members generally.

Geo. A. Putnam,

Superintendent.

Toronto, Nov., 1913.

Attendance, Membership, etc., for 1912-13.

Institutes holding largest number of meetings (each session is recorded as a meeting), during the year ending May 31st, 1913, are:—

Parry Sound, East	32	Middlesex, East	20
Hastings, North	31	Brant, South	20
Waterloo, North	28	Kent, East	19
York, East	23	Manitoulin, East	19
Grey, Centre	22	Ontario, North	19
Huron, East	22	Wentworth, South	18
Simcoe, Centre	22	Wellington, West	18
Welland	22	Peel	18
Ontario, South	20	Oxford, South	18
Manitoulin, West	20	Oxford, North	18
Hastings, East	20	Middlesex, North	18
York, North	20		

Institutes having the largest attendance at their meetings:—

Middlesex, North	2,447	Perth, North	2,000
Waterloo, North	2,425	Glengarry	1,937
Perth, South	2,225	Oxford, North	1,925
Lambton, East	2,164	Victoria, East	1,791
Middlesex, East	2,078	Grey, Centre	1,784
Northumberland, West	2,041	Bruce, Centre	1,746
Huron, East	2,020	Bruce, South	1,560

Institutes with the largest membership for the year ending 1912:—

Waterloo, North	493	Oxford, North	327
Lambton, East	471	Simcoe, Centre	314
Carleton	449	Ontario, North	314
Waterloo, South	392	Oxford, South	314
Lambton, West	379	Glengarry	310
Essex, South	370	Brant, South	307
York, North	367	Hastings, North	301
Halton	352	Middlesex, East	301
Perth, South	347	Grey, North	300

Judging Classes.

Short Courses in Seed and Stock Judging were conducted at the following places:—Agincourt, Almonte, Alvinston, Amherstburg, Aylmer, Barrie, Belleville, Blackstock, Bobcaygeon, Bradford, Brantford, Burford, Burritt's Rapids, Campbellford, Chatsworth, Chesterville, Creemore, Easton's Corners, Elgin, Elmira, Enterprise, Essex, Fenelon Falls, Finch, Fletcher, Galetta, Galt, Glencoe, Grand Valley, Harrowsmith, Hawkesville, Hespeler, Honeywood, Inverary, Kars, Keene, Keswick, Kimberley, Lansdowne, Little Britain, McDonald's Corners, Madoc, Markdale, Maxville, Meaford, Metcalfe, Middleville, Millbrook, Milverton, Mitchell, Mount Forest, Napanee, New Hamburg, Newmarket, Norwich, Norwood, Omemee, Onondaga, Orangeville, Parkhead, Parkhill, Peterboro, Picton, Port Hope, Ravenna, Ridgetown, Ripley, Rockford, Rodney, Roseneath, Schomberg, Simcoe, St. Andrews, St. George, South Mountain, Spencerville, Stirling, Strathroy, Tara, Thamesville, Thedford, Tillsonburg, Wales, Walkerton, Welland, Williamstown, Woodbridge, Woodville.

There is a growing interest in this feature of agricultural education, and the majority of the Courses are held through the co-operation of the District Representatives, who secure the best stock in the locality, do the advertising, and make local arrangements.

Annual Meetings.

During the past season speakers were sent to 24 annual meetings of the Farmers' Institutes.

Dairy Meetings.

The staff of Dairy Instructors from April to November inclusive are utilized also to attend special Dairy Meetings held under the auspices of the factories and creameries, usually at the time of the annual business meeting. Speakers were sent to 280 such meetings during the past year, and the total attendance was 12,931.

Meetings in Northern Ontario.

The Farmers' and Women's Institutes in the Northern sections of the Province were furnished with lady and gentlemen speakers for a series of meetings held in late May, June, and early July. The total number of such meetings was 187. In addition to these regular Institute meetings, the Department sent instructors to conduct Short Courses in stock judging at the following places during late September and October:—

Algoma.—Bruce Mines, McLennan's section, Richard's Landing, Sault Ste. Marie, Thessalon.

Kenora.—Dryden, Eagle River.

Manitoulin.—Barrie Island, Billings, Gordon, Silver Water, Tehkummah.

Muskoka, N.—Hillside, North Huntsville.

Parry Sound.—Doe Lake, Magnetawan, South River.

Rainy River.—Devlin, Emo, Stratton.

Sudbury.—Bleazard Valley, Lee Valley, Verner.

Thunder Bay.—Dorion, Hymers, and Murillo.

Better Farming Special.

Through the co-operation of the Canadian Pacific Railway and the Department of Agriculture, the Institutes Branch operated a couple of Demonstration cars over the C. P. R. lines between Windsor and Toronto, Guelph Junction and Goderich, Streetsville and Owen Sound, Orangeville and Toronto, Toronto and Coldwater, Coldwater and Ottawa, Ottawa and Toronto, stopping at forty places. One car was devoted to live stock, while the other car contained exhibits and demonstrative material covering a variety of farming activities. The cars were taken from place to place on the regular trains. The method followed in Ontario heretofore has been to use a whole train and stop at three places each day, devoting two or two and a half hours at each point. This year the cars remained at each place a whole day, and the people were thus allowed plenty of time to look over the exhibits, ask such questions as they wished of the demonstrators in charge, and to listen to the instruction in the judging of live stock as well as to attend the evening session, which was given at nearly all stops. No regular programme was followed, except in the case of live stock. In the early afternoon, demonstrations in the judging of live stock and lectures on the feed and care were delivered by the men in charge.

The cars contained the exhibits as follows:

Field Husbandry.

1. Samples of oats, wheat, barley, peas, grasses, clovers, corn, and potatoes. Germination tests and effects of seed selection. Weeds and weed seeds, etc.

Live Stock.

2. Percheron mare, Clydesdale filly, beef heifer, Shorthorn (Dual purpose), Holstein, Ayrshire, and Jersey cows. Three Shropshire and Three Leicester Ewes. Three Yorkshire and Three Berkshire gilts.

Drainage.

3. Levelling instruments, tools, tile, soil samples. Charts showing beneficial effects of drainage and proper cultivation, etc.

Dairying.

4. Pails, strainers, Babcock tester, scales, and cooling equipment. Samples showing effect of dirt in milk.

Poultry.

5. Model poultry houses and appliances, brooder, apparatus for candling eggs, feeds, feeding troughs. Desirable and undesirable birds.

The lecturers were drawn from the staff of the Ontario Agricultural College, our regular Institute workers and employees in the various branches of the Department. Live stock was used to illustrate lectures on live stock, and to enable the people to form an ideal in the different classes. During the seven weeks of operation 11,000 people visited the cars, *i.e.*, 275 at each place. The Department appreciates the liberality of the Canadian Pacific Railway in making this form of instruction possible, and we believe that the outlay on the part of the Department and the railroad was money well expended.

Summary of Attendance.

At Regular, Supplementary, and Special Institute Meetings for the twelve months ending June 30, 1913:—

Regular and Supplementary Meetings:	
Farmers' Institutes	94,266
Women's Institutes	178,858
Special Institutes:	
Women's Institute Demonstration Lectures	22,504
Farmers' and Women's Institute Conventions	14,700
Better Farming Special	11,000
Seed and Live Stock Judging Classes	33,500
Factory and Creamery Meetings	12,931
Total	367,759

We trust that the loyal support which has characterized the efforts of the Institute Officers for many years will be continued.

Geo. A. Putnam,
Superintendent.

Toronto, Ontario,
Nov., 1913.

STATISTICAL REPORTS OF LOCAL FARMERS'

INSTITUTE DISTRICT.	Membership, December, 1912.	Membership to June, 1913.	No. of meetings held.	Total attendance.	No. of papers read or addresses delivered.	Receipts.			
						Cash on hand per last report.	Members' fees.	Grants.	Receipts from excursions.
						$ c.	$ c.	$ c.	$ c.
1 Addington	72	57	9	264	12	9 77	15 50	50 00	.....
2 Algoma, Centre	161	56	9	634	20	38 71	13 50	35 00	25 00
3 Algoma, East	207	73	14	636	28	38 62	20 00	25 00	.....
4 Algoma, North Shore	63	58	10	527	17	20 18	8 75	25 00	.....
5 Amherst Island	.....	.....	3	107	4	107 65	.....	.....	.....
6 Brant, North	200	276	15	1,522	46	93 76	65 50	50 00	.....
7 Brant, South	307	337	20	1,395	50	73 70	90 25	50 00	.....
8 Bruce, Centre	155	136	12	1,746	14	161 16	37 50	50 00	.....
9 Bruce, North	212	204	9	375	22	58 47	30 30	50 00	25 13
10 Bruce, South	208	186	12	1,560	29	23 88	45 75	50 00	.....
11 Bruce, West	254	301	12	796	20	161 76	71 00	50 00	42 80
12 Carleton	449	389	15	1,064	30	151 14	112 25	75 00	.....
13 Dufferin	281	308	18	808	46	109 76	82 50	50 00	81 12
14 Dundas	269	335	9	880	22	351 71	82 50	50 00	.....
15 Durham, East	262	243	14	868	38	119 60	60 00	50 00	.....
16 Durham, West	200	186	12	747	12	197 69	44 50	50 00	40 05
17 Elgin, East	257	162	8	313	9	329 68	39 00	50 00	51 40
18 Elgin, West	216	181	10	379	15	90 80	46 00	50 00	17 75
19 Essex, North	66	121	10	570	28	46 75	29 75	50 00	.....
20 Essex, South	370	272	12	530	29	111 44	67 50	75 00	.....
21 Frontenac, Centre	168	61	8	347	13	29 03	12 20	50 00	.....
22 Frontenac	127	145	12	85	12	63 22	34 75	50 00	.....
23 Glengarry	310	506	12	1,937	37	56 19	99 75	50 00	.....
24 Grenville, South	125	116	14	753	25	23 80	27 00	50 00	.....
25 Grey, Centre	262	301	22	1,784	26	.....	50 00	50 00	10 10
26 Grey, North	300	263	13	1,136	17	154 18	66 00	50 00	25 20
27 Grey, South	113	160	13	1,215	43	33 66	44 25	50 00	113 70
28 Haldimand	192	185	16	750	20	6 65	50 85	50 00	73 55
29 Halton	352	113	16	1,181	48	281 51	62 60	50 00	84 75
30 Hastings, East	109	130	20	1,097	32	13	28 25	50 00	.....
31 Hastings, North	301	479	31	1,402	40	17 65	119 00	50 00	.....
32 Hastings, West	89	68	9	411	15	53 11	15 00	50 00	.....
33 Huron, East	288	258	22	2,020	45	89 92	66 75	50 00	45 00
34 Huron, West	104	190	16	1,450	67	.....	23 50	50 00	57 60
35 Huron, South	176	198	16	905	18	29 69	49 50	54 00	.....
36 Kent, East	242	253	19	989	42	107 74	58 75	50 00	.....
37 Kent, West	178	122	10	365	29	16 47	30 50	50 00	.....
38 Lambton, East	471	304	17	2,164	59	50	79 70	75 00	.....
39 Lambton, West	379	285	17	1,268	46	68 43	91 00	75 00	.....
40 Lanark, North	90	106	10	470	10	26 42	26 75	50 00	.....
41 Lanark, South	56	60	9	590	40	14 62	14 00	50 00	.....
42 Leeds	84	80	9	300	10	7 80	19 50	50 00	.....
43 Lennox	91	153	12	225	15	59 43	39 25	25 00	.....
44 Lincoln	174	176	13	1,436	42	77 11	44 25	55 00	9 42
45 Manitoulin, East	100	62	19	939	24	58 94	28 25	25 00	.....
46 Manitoulin, West	36	206	20	963	43	29 62	27 50	25 00	.....
47 Middlesex, East	301	281	20	2,078	49	41 16	63 00	50 00	40 95
48 Middlesex, West	116	121	14	783	38	135 58	31 00	50 00	.....
49 Middlesex, North	213	303	18	2,447	50	42 01	77 00	50 00	.....
50 Monk	162	148	16	1,050	16	10 36	35 00	55 00	.....
51 Muskoka, Centre	72	58	5	310	14	2 73	15 00	25 00	.....
52 Muskoka, North	185	176	17	616	40	90	27 75	25 00	10 42
53 Muskoka, South	66	63	23	360	25	17 74	12 50	25 00	.....
54 Nipissing, East and West	47	51	7	233	10	.....	.....	.....	.....
55 Norfolk, North	238	245	16	879	16	20 93	62 50	50 00	72 95

INSTITUTES FOR THE YEAR ENDING JUNE 30TH, 1913.

Receipts			Expenditure.										
Miscellaneous.	Balance due Treasurer.	Total receipts.	Due Treasurer per last report.	Expense for meetings.	Officers' salaries and expenses.	Postage and stationery.	Printing and advertising.	Lecturers' expenses and wages.	Books and Periodicals.	Miscellaneous.	Total expenditure.	Balance.	No.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
.....	.....	75 27	.....	18 45	20 00	6 75	14 00	5 20	.....	.....	64 40	10 87	1
.....	.....	87 21	.....	23 00	13 00	1 00	11 00	.....	.....	1 00	49 00	38 21	2
.....	.....	108 62	.....	3 00	25 00	1 75	3 50	18 00	.....	32 78	84 00	24 62	3
.....	3 50	57 43	.....	2 50	17 18	2 17	7 80	.....	.....	10 90	40 55	16 88	4
.....	.....	107 65	.....	1 50	10 00	1 50	2 19	.....	.....	.....	15 19	92 46	5
.....	6 00	215 26	.....	31 90	40 00	8 50	34 85	11 00	.....	53 60	179 85	35 41	6
.....	.....	213 95	.....	35 20	60 00	9 08	18 75	18 00	.....	13 60	154 63	59 32	7
.....	.....	248 66	.....	82 05	40 00	5 00	15 30	6 50	.....	13 50	162 35	86 31	8
1.36	.....	165 26	11 85	21 30	48 00	3 15	8 45	.....	28 70	15 00	136 45	28 81	9
2 00	.....	121 63	.....	52 70	25 00	4 75	24 75	.....	.....	2 00	109 20	12 43	10
3 00	.....	328 56	.....	3 00	71 05	10 94	10 85	.....	59 00	22 50	177 34	151 22	11
.....	.....	338 39	.....	15 55	60 25	5 00	15 30	.....	.....	63 00	159 10	179 29	12
5 49	.....	328 87	.....	74 25	46 45	6 12	16 00	.....	.....	1 95	144 77	184 10	13
10 65	.....	494 86	.....	11 00	50 00	2 16	23 63	21 45	.....	15 00	123 24	371 62	14
6 95	.....	236 55	.....	16 00	82 35	3 93	22 00	16 80	10 00	1 00	152 08	84 47	15
6 30	.....	338 54	.....	14 50	57 00	2 30	35 75	12 05	.....	23 85	145 45	193 09	16
10 53	.....	480 61	.....	.....	49 85	75	26 60	10 30	.....	34 35	121 85	358 76	17
4 00	.....	208 55	.....	3 00	35 00	15 00	34 80	11 10	.....	15 20	114 10	94 45	18
.....	.....	126 50	.....	2 75	22 50	2 00	17 25	32 20	.....	.....	76 70	49 80	19
.....	.....	253 94	.....	10 50	45 35	13 25	5 00	19 00	.....	7 00	100 10	153 84	20
.....	.....	91 23	.....	1 50	27 00	2 25	14 25	11 00	6 00	.....	62 00	29 23	21
.....	.....	147 97	.....	11 50	30 00	3 80	19 10	.....	.....	80	65 20	82 77	22
14 50	.....	226 44	.....	49 25	42 00	3 25	33 68	.....	.....	27 95	156 13	64 31	23
.....	.....	100 80	.....	8 40	25 00	4 09	11 65	17 20	.....	6 65	72 99	27 81	24
80	33 61	144 51	4 02	81 20	30 00	3 29	13 25	6 00	.....	6 75	144 51	.....	25
3 28	.....	298 66	.....	68 35	55 25	10 65	16 00	4 50	.....	7 00	161 75	136 91	26
112 35	.....	353 96	.....	58 95	71 80	3 80	34 00	28 25	112 35	19 85	329 00	24 96	27
2 00	.....	183 05	.....	40 85	65 00	13 30	45 81	11 00	.....	4 30	180 26	2 79	28
23 88	.....	502 74	.....	52 15	83 00	11 00	38 48	32 50	.....	48 40	265 53	237 21	29
8 00	4 96	91 34	.....	25 85	35 00	.....	25 99	4 50	.....	.....	91 34	.....	30
.....	.....	186 65	.....	48 00	70 00	8 00	12 50	.....	.....	15 50	154 00	32 65	31
.....	.....	118 11	.....	5 50	34 00	7 10	11 60	10 00	.....	14 50	82 70	35 41	32
3 61	.....	253 28	.....	59 40	62 00	5 35	19 25	75 50	.....	10 00	231 50	23 78	33
.....	31 38	162 48	14 33	77 65	60 00	10 00	50	.....	.....	.....	162 48	.....	34
.....	9 45	142 64	.....	74 85	40 10	1 69	26 00	.....	.....	.....	142 64	.....	35
14 00	.....	230 49	.....	26 45	62 00	5 12	16 25	20 30	.....	.....	130 12	100 37	36
.....	21 63	118 60	.....	55 00	38 10	3 50	5 50	16 50	.....	.....	118 60	.....	37
.....	.....	155 20	.....	32 50	67 90	5 20	19 25	23 20	.....	2 53	150 58	4 62	38
15 00	.....	249 43	.....	75 45	20 00	7 00	33 40	42 00	.....	11 65	189 50	59 93	39
.....	.....	103 17	.....	14 10	43 65	2 50	13 50	.....	.....	.....	73 75	29 42	40
.....	.....	78 62	.....	17 25	25 00	2 00	16 00	.....	.....	5 50	65 75	12 87	41
.....	7 20	84 50	.....	65 87	.....	1 63	17 00	.....	.....	.....	84 50	.....	42
.....	.....	123 68	.....	25 25	33 30	5 00	15 91	8 00	.....	.....	87 46	36 22	43
.....	.....	185 78	.....	40 40	40 00	5 14	37 40	19 55	.....	5 75	148 24	37 54	44
8 00	.....	120 19	.....	1 00	15 00	2 00	8 75	33 00	.....	1 80	61 55	58 64	45
6 00	.....	88 12	.....	22 00	15 00	2 70	3 00	.....	.....	2 20	44 90	43 22	46
5 15	.....	200 26	.....	83 10	30 00	7 00	27 89	12 50	17 70	7 00	185 19	15 07	47
.....	.....	216 58	.....	32 85	33 00	4 47	2 50	12 50	.....	12 75	98 07	118 51	48
10 00	.....	179 01	.....	52 20	58 95	4 95	16 00	11 35	.....	.....	143 45	35 56	49
.....	.....	100 36	.....	35 30	27 50	5 25	17 40	4 50	.....	.....	89 95	10 41	50
.....	.....	42 73	.....	12 10	12 50	1 50	8 00	.....	.....	3 90	38 00	4 73	51
75	.....	64 82	.....	1 50	29 60	1 82	10 00	14 15	.....	2 25	59 32	5 50	52
90	.....	56 14	.....	8 40	15 00	1 14	15 00	8 95	.....	5 00	53 49	2 65	53
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	54
.....	.....	206 38	.....	30 05	54 50	8 75	27 31	16 50	.....	6 60	143 71	62 67	55

STATISTICAL REPORTS OF LOCAL FARMERS' INSTITUTES

INSTITUTE DISTRICT.	Membership December, 1912.	Membership to June, 1913.	No. of meetings held.	Total attendance.	No. of papers read or addresses delivered.	Receipts.			
						Cash on hand per last report.	Members' fees.	Grants.	Receipts from excursions.
						$ c.	$ c.	$ c.	$ c.
56 Norfolk, South	111	109	12	489	15	.....	24 00	50 00	37 75
57 Northumberland, West	187	190	14	2,041	60	49 50	53 00	80 00	.....
58 Northumberland, East	121	62	11	1,066	32	24 00	16 00	25 00	.....
59 Ontario, North	314	232	19	1,044	47	.....	55 00	50 00	99 05
60 Ontario, South	254	150	20	1,127	45	70 01	45 75	50 00	83 85
61 Oxford, North	327	260	18	1,925	35	.....	67 75	50 00	61 25
62 Oxford, South	314	269	18	1,419	18	.....	71 00	50 00	.....
63 Parry Sound, East	218	181	32	1,648	36	22 49	38 25	28 00	.....
64 Parry Sound, West	57	51	9	172	14	.....	12 75	25 00	.....
65 Peel	209	334	18	1,056	18	.....	.....	.....	.....
66 Perth, North	251	334	17	2,000	37	39 41	82 50	.....	.....
67 Perth, South	347	372	16	2,225	56	149 88	92 00	50 00	89 60
68 Peterboro', East	96	87	11	1,107	38	37 74	20 50	50 00	2 40
69 Peterboro', West	123	141	10	695	44	74 74	37 00	50 00	12 30
70 Port Carling	24	29	4	250	4	4 60	12 00	.....	.....
71 Prescott	111	128	6	100	8	125 99	31 50	50 00	.....
72 Prince Edward	120	91	10	373	10	55 90	21 50	50 00	.....
73 Rainy River, South	66	28	13	682	13	18 94	15 25	25 00	.....
74 Renfrew, North	72	76	8	459	8	42 74	18 75	50 00	.....
75 Renfrew, South	74	143	13	564	28	145 26	34 00	50 00	.....
76 Russell	142	249	8	115	10	.....	.....	.....	.....
77 Simcoe, Centre	314	297	22	1,210	55	214 17	57 80	50 00	60 10
78 Simcoe, East	115	105	10	439	12	114 65	26 25	50 00	23 14
79 Simcoe, South	152	155	14	886	30	29 67	38 25	50 00	15 00
80 Simcoe, West	235	155	14	1,050	14	161 98	48 25	50 00	76 40
81 Stormont	272	210	14	1,405	16	13 72	54 25	50 00	.....
82 St. Joseph's Island	76	64	11	278	12	10 52	11 25	33 35	.....
83 Temiskaming	57	115	32	959	32	73 84	10 90	25 00	.....
84 Thunder Bay	137	119	16	605	18	527 42	11 50	50 00	.....
85 Union	159	139	9	536	10	117 21	34 50	50 00	.....
86 Victoria, East	134	165	17	1,791	26	37 12	33 25	50 00	.....
87 Victoria, West	156	141	10	522	32	23 54	46 75	50 00	36 33
88 Waterloo, North	493	499	28	2,425	59	.....	125 00	50 00	29 19
89 Waterloo, South	392	536	14	1,213	28	.....	126 75	50 00	39 10
90 Welland	242	300	22	1,167	58	396 83	87 00	50 00	250 00
91 Wellington, Centre	63	70	8	390	12	.....	17 00	50 00	.....
92 Wellington, East	179	170	13	823	31	36 71	42 25	50 00	19 60
93 Wellington, South	152	110	3	718	98	38 38	32 75	50 00	.....
94 Wellington, West	144	178	18	1,453	31	177 38	42 25	50 00	71 25
95 Wentworth, North	232	186	15	1,205	29	50 36	48 00	50 00	.....
96 Wentworth, South	239	224	18	970	18	.....	49 50	50 00	37 35
97 York, East	224	279	23	1,040	61	61 66	53 00	50 00	61 85
98 York, North	367	256	20	1,513	38	123 61	86 00	75 00	77 05
99 York, West	160	94	14	452	41	2 21	51 25	50 00	.....
Totals	18,758	18,290	1,415	94,266	2,894	$ 6,946	$ 4,250	$ 4,415	$ 1,970

FOR THE YEAR ENDING JUNE 30TH, 1913.—Continued.

Receipts.			Expenditure.										
Miscellaneous.	Balance due Treasurer.	Total receipts.	Due Treasurer per last report.	Expense for meetings.	Officers' salaries and expenses.	Postage and stationery.	Printing and advertising.	Lecturers' expenses and wages.	Books and Periodicals.	Miscellaneous.	Total expenditure	Balance.	No.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
7 90	790	119 65	16 84	10 50	45 20	86	30 20	.....	.....	16 05	119 65	.....	56
1 10	.....	183 60	.....	85 25	47 50	2 50	40 75	3 00	.....	85	179 85	3 75	57
.....	12 85	77 85	.....	45 35	25 00	75	6 75	.....	.....	.....	77 85	.....	58
12 80	11 50	228 35	.....	22 40	75 00	10 16	47 40	10 50	.....	62 89	228 35	.....	59
.....	.....	249 61	.....	29 30	45 00	12 25	38 90	23 05	.....	5 05	133 55	96 06	60
19 65	65 02	263 67	40 07	36 00	54 00	5 00	32 25	27 50	65 25	3 60	263 67	.....	61
5 80	41 34	168 14	3 95	47 50	41 30	9 50	11 40	42 55	11 94	.....	168 14	.....	62
3 00	59 81	151 55	.....	62 80	55 00	8 75	24 75	.....	.....	25	151 55	.....	63
.....	55 38	93 13	56 63	15 75	15 00	75	5 00	.....	.....	.....	93 13	.....	64
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	65
.....	.....	121 91	.....	19 00	43 35	3 05	9 50	21 50	.....	17 50	113 90	8 01	66
4 22	.....	385 70	.....	83 85	93 00	7 63	47 50	6 15	.....	7 00	245 13	140 57	67
.....	.....	110 64	.....	19 30	31 70	4 10	14 00	.....	.....	.....	69 10	41 54	68
.....	.....	174 04	.....	49 75	33 25	14 40	20 75	.....	.....	.....	118 15	55 89	69
.....	.....	16 60	.....	2 85	.....	2 50	.....	.....	.....	.....	5 35	11 25	70
.....	.....	207 49	.....	17 00	20 00	2 00	11 50	5 00	.....	.....	55 50	151 99	71
1 78	.....	129 18	.....	11 80	25 00	87	11 90	.....	.....	.....	49 57	79 61	72
2 75	.....	61 94	.....	4 00	15 00	55	8 00	.....	.....	.....	27 55	34 39	73
.....	.....	111 49	.....	2 00	35 60	5 75	.....	3 00	.....	5 00	51 35	60 14	74
.....	.....	229 26	.....	.....	32 15	4 36	19 00	22 50	.....	5 00	83 01	146 25	75
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	76
1 00	.....	383 07	.....	142 80	78 00	12 25	25 50	.....	.....	.....	258 55	124 52	77
4 15	.....	218 19	.....	35 15	35 60	3 00	9 00	.....	.....	13 50	96 25	121 94	78
.....	.....	132 92	.....	18 00	22 25	4 20	15 25	25 75	.....	1 80	87 25	45 67	79
.....	.....	336 63	.....	75 05	48 45	8 00	3 00	15 75	.....	19 90	170 15	166 48	80
.....	.....	117 97	.....	25 00	45 00	2 75	17 25	18 15	.....	5 00	113 15	4 82	81
3 25	.....	58 37	.....	12 00	25 00	3 25	11 25	.....	.....	5 25	56 75	1 62	82
.....	.....	109 74	.....	4 00	.....	95	23 95	.....	.....	.....	28 90	80 84	83
147 80	.....	736 72	.....	.....	15 50	4 75	297 00	3 50	.....	80 00	400 75	335 97	84
5 46	.....	207 17	.....	17 35	29 20	4 85	14 00	11 30	.....	10 60	87 30	119 87	85
13 55	.....	133 92	.....	41 66	21 90	7 30	16 00	2 25	.....	8 81	97 92	36 00	86
9 34	20 71	186 67	.....	37 30	25 00	15 12	51 00	10 50	15 75	32 00	186 67	.....	87
13 10	82 91	300 20	42 36	31 00	107 50	9 14	39 25	50 70	.....	20 25	300 20	.....	88
1 00	.....	216 85	.....	93 35	.....	3 97	49 30	.....	.....	5 20	151 82	65 03	89
56 77	.....	840 60	.....	111 15	72 50	5 00	29 20	56 50	.....	40 85	315 20	525 40	90
2 00	.....	69 00	4 22	11 10	22 65	2 95	6 50	.....	.....	.....	47 42	21 58	91
5 00	.....	153 56	.....	11 00	53 95	6 00	16 85	41 30	.....	10 60	139 70	13 86	92
5 25	.....	126 38	.....	9 90	28 25	4 90	18 00	.....	.....	22 00	83 05	43 33	93
6 15	.....	347 03	.....	3 00	36 00	3 32	57 70	11 60	.....	95 75	207 37	139 66	94
.....	.....	148 36	.....	31 05	87 60	3 37	11 00	.....	.....	4 50	137 52	10 84	95
.....	.....	136 85	51 72	50 44	.....	3 16	16 38	.....	.....	.....	121 70	15 15	96
.....	.....	226 51	.....	36 54	68 84	10 42	37 22	20 37	.....	.....	173 39	53 12	97
5 69	.....	367 35	.....	31 55	63 75	4 43	18 90	53 95	.....	87 35	259 93	107 42	98
6 00	.....	109 46	.....	11 50	33 65	10 25	28 35	20 40	.....	.....	104 15	5 31	99
$ 614	$ 475	$ 18,671	$ 246	$ 3,027	$ 3,822	$ 494	$ 2,122	$ 1,132	$ 327	$ 1,136	$ 12,306	$ 6,365	

ONTARIO FARMERS' INSTITUTE

OFFICERS FOR 1913-14

Institute.		Name.	P. O. Address.
Addington	President	W. H. Vannest	Enterprise.
	Vice-President	Robert Nugent	Newburgh.
	Secretary	W. S. Lockwood	Enterprise.
Algoma, C.	President	J. A. Moore	Steelton.
	Vice-President	Geo. W. Hill	Sault Ste. Marie.
	Secretary	Henry Knight, Jr.	Sault Ste. Marie.
Algoma, E.	President	Thos. Cordukes	Sowerby.
	Vice-President	David Bird	Dayton.
	Secretary	A. H. Hagen	Sowerby.
Algoma, North Shore	President	W. A. Shier	MacLennan.
	Vice-President	Albert Davidson	MacLennan.
	Secretary	James Nott	MacLennan.
Brant, North	President	M. N. Simpson	Onondaga.
	Vice-President	J. Rosebrugh	St. George.
	Secretary	F. C. Beaupre	Paris.
Brant, South	President	G. H. Morris	Hatchley.
	Vice-President	G. M. Ballachy	Brantford.
	Secretary	F. E. Malcolm	R.R. 2, Brantford.
Bruce, Centre	President	J. L. Bowers	Ripley.
	Vice-President	Jno. Watson	Pine River.
	Secretary	R. J. Nelson	Paisley.
Bruce, North	President	J. K. Livingston	Hepworth.
	Vice-President	Wm. Laidlaw	Lion's Head.
	Secretary	Cecil Swale	Wiarton.
Bruce, South	President	Jas. A. Lamb	Walkerton.
	Vice-President	S. D. A. A. Stobo	Teeswater.
	Secretary	W. A. Rowand	Walkerton.
Bruce, West	President	W. A. Mitchell	Port Elgin.
	Vice-President	Neil McDougall	Tara.
	Secretary	J. H. Wismer	Port Elgin.
Carleton	President	Geo. R. Bradley	Carsonby.
	Vice-President	Geo. Hopper	Merivale.
	Secretary	R. H. Grant	Hazeldean.
Dufferin	President	W. J. Hamilton	Whittington.
	1st Vice-President	Rice Hill	Whitfield.
	2nd Vice-President	R. H. Galbraith	Shelburne.
	Secretary	Jas. H. McKee	Whitfield P.O.
Dundas	President	Conrad Whittaker	Williamsburg.
	Vice-President	Thos. Whaleham	Chesterville.
	Secretary	W. H. Casselman	Chesterville.
Durham, East	President	M. G. Welch	R.R. No. 3, Port Hope.
	Vice-President	W. R. Shields	Mt. Pleasant.
	Secretary	A. J. Fallis	R.R. No. 3, Millbrook.
Durham, West	President	J. Chas. Hancock	Clarke.
	Vice-President	Jno. Baker	Solina.
	Secretary	W. E. Pollard	Bowmanville.
Elgin, East	President	J. H. Sheppard	Luton.
	Vice-President	R. A. Penhale	St. Thomas.
	Secretary	F. Leeson	Aylmer West.
Elgin, West	President	H. J. Hales	Dutton.
	Vice-President	N. E. Burton	Port Stanley.
	Secretary	J. E. Pearce	Wallacetown.
Essex, North	President	R. W. Kinister	Comber.
	Vice-President	Alex. St. Louis	Walkerville.
	Secretary	M. N. Mousseau	S. Woodslee.
Essex, South	President	Philip C. Fox	Kingsville.
	Vice-President	Nelson Peterson	Ruthven.
	Secretary	G. W. Coatsworth	Kingsville.

Institute.		Names.	P. O. Address.
Frontenac	President	Jno. Taylor	Latimer.
	Vice-President	H. A. Buck	Sydenham.
	Secretary	J. B. Quinn	R.R. No. 1, Kingston.
Frontenac, Centre	President	Jas. E. Price	Mt. Grove.
	Vice-President	W. W. Barr	Mt. Grove.
	Secretary	A. C. Abbott	Mt. Grove.
Glengarry	President	D. A. Ross	Martintown.
	1st Vice-President	D. H. Kennedy	St. Elmo.
	2nd Vice-President	W. J. McGregor	North Lancaster.
	Secretary	J. P. McNaughton	Maxville.
Grenville, South	President	E. D. Perrin	R.F.D. No. 2, Prescott.
	Vice-President	Jas. Goodin	R.F.D. No. 2, Spencerville.
	Secretary	G. W. Carson	R.F.D. No. 1, Domville.
Grey, Centre	President	A. Kintner	Thornbury.
	Vice-President	A. E. Myles	Kimberley.
	Secretary	J. I. Graham	R.R. No. 4, Markdale.
Grey, North	President	Malcolm Rutherford	Leith.
	Vice-President	Jas. Sutherland	Bognor.
	Secretary	A. S. Donald	R.R. No. 5, Tara.
Grey, South	President	Wm. S. Scarf	Durham.
	Vice-President	J. W. Blyth	Varney.
	Secretary	Geo. Binnie	Bunessan.
Haldimand	President	R. E. King	Decewsville.
	Vice-President	A. Lamb	Selkirk.
	Secretary	W. S. Dunnet	Lythmore.
Halton	President	Jas. Wilson	Milton.
	Vice-President	H. Foster	Burlington.
	Secretary	A. L. MacNabb	Milton.
Hastings, East	President	Alex. Moore	Latta.
	Vice-President	W. J. Hall	Latta.
	Secretary	H. S. Tucker	Chapman.
Hastings, North	President	W. E. Tummon	Crookston.
	Vice-President	James Kincaid	Madoc.
	Secretary	F. A. Comerford	Eldorado.
Hastings, West	President	Clem. H. Ketcheson	Frankford Stage, Belleville.
	1st Vice-President	W. E. Vandewater	R.F.D. 46, Belleville.
	2nd Vice-President	A. Park	R.F.D. No. 4, Stirling.
	Secretary	T. H. Ketcheson	Frankford.
Huron, East	President	W. H. Fraser	Bluevale.
	1st Vice-President	Amos Smith	Trowbridge.
	2nd Vice-President	Richard Proctor	Belgrave.
	Secretary	P. A. McArthur	Brussels.
Huron, South	President	Jno. Elder	Hensall.
	Vice-President	Alex. Buchanan, Jr.	Hensall.
	Secretary	B. S. Phillips	Exeter.
Huron, West	President	J. A. Mallough	Dungannon.
	Vice-President	J. W. Salkeld	Goderich.
	Secretary	Wm. Bailie	Dungannon.
Kent, East	President	F. L. Arnold	Kent Bridge.
	Vice-President	Wm. Dean	R.F.D. No. 1, Thamesville.
	Secretary	D. M. Winter	R.R. No. 3, Northwood.
Kent, West	President	Jno. Forsyth	Eberts.
	Vice-President	Byron Robinson	Wheatley.
	Secretary	Lester Gregory	Darrell.
Lambton, East	President	J. Willsie	Thedford.
	Vice-President	Albert Wright	Thedford.
	Secretary	T. P. Morris	Warwick.

Institute.		Name.	P. O. Address.
Lambton, West	President	J. M. Webster	Rutherford.
	Vice-President	Jno. A. McBean	Seckerton.
	Secretary	Robt. J. White	Colinville.
Lanark, North	President	J. C. Currie	Lammermoor.
	Vice-President	Arch. Rankin	Middleville.
	Secretary	James Park	Poland.
Lanark, South	President	J. W. Leaver	Perth.
	Vice-President	James Glenn	Perth.
	Secretary	Geo. Oliver	Perth.
Leeds, South	President	W. M. Bass	Newboro.
	Vice-President	C. F. Rath	Lansdowne.
	Secretary	Freeman Britton	Gananoque.
Lennox	President	Ira B. Hudgins	Selby.
	Vice-President	A. M. Carrott	Odessa.
	Secretary	Manly Jones	Napanee.
Lincoln	President	W. B. Rittenhouse	Beamsville.
	Vice-President	L. H. Collard	Homer.
	Secretary	H. W. Houser	Campden.
Manitoulin, East	President	W. B. Snow	Snowville.
	Vice-President	A. J. Wagg	Mindemoya.
	Secretary	J. P. Dunlop	Sheguiandah.
Manitoulin, West	President	J. Jennings	Barrie Island.
	Vice-President	Fred. Smith	Gore Bay.
	Secretary	W. O. Runnalls	Barrie Island.
Middlesex, East	President	T. Ramsy	Hyde Park.
	Vice-President	W. B. Harding	R. 1, Thorndale.
	Secretary	Jas. H. Wheaton	R. 2, Thorndale.
Middlesex, North	President	Jno. Brown	Greenway.
	Vice-President	Peter Mitchell	Coldstream.
	Secretary	M. Veitch	Parkhill.
Middlesex, West	President	James Peters	Falconbridge.
	Vice-President	D. N. Munro	Glencoe.
	Secretary	Chas. Macfie	Appin.
Monck	President	Frank Mingle	St. Anns.
	Vice-President	Jno. Hill	Canboro.
	Secretary	J. E. Cohoe	Wellandport.
Muskoka, Centre	President	Alfred Kay	Port Sydney.
	Vice-President	W. J. Hammill	Raymond.
	Secretary	J. H. Osborne	Utterson.
Muskoka, North	President	Samuel Robson	Birkendale.
	Vice-President	Henry Young	Emberson.
	Secretary	F. A. Emberson	Hillside.
Muskoka, South	President	J. J. Beaumont	Bracebridge.
	Vice-President	Albert Goltz	Bardsville.
	Secretary	Alex. Barron	Bracebridge.
Port Carling	President	Jos. McCully	Port Carling.
	Vice-President	Chas. E. Davidson	Brackenrig.
	Secretary	John Davidson	Brackenrig.
Nipissing, West	President	Onesime Larocque	North Bay.
	Vice-President	Albert Depencer	North Bay.
	Secretary	W. J. Simmens	Feronia.
Norfolk, North	President	Geo. Erwin	Tyrell.
	1st Vice-President	Albert Cowan	Courtland.
	2nd Vice-President	David Duckworth	Waterford.
	Secretary	Albert Swinn	Mabee.
Norfolk, South	President	Jno. Pow	Vittoria.
	Vice-President	Edward Starling	St. Williams.
	Secretary	N. S. Palmerton	Walsh.
Northumberland, East	President	Geo. Anderson	Campbellford.
	Vice-President	B. Nelson	Campbellford.
	Secretary	J. A. Stewart, Jr.	Menie.
Northumberland, West	President	R. L. Holdsworth	Port Hope.
	Vice-President	C. E. Wilton	Grafton.
	Secretary	Thos. Hoskins	The Gully.
Ontario, North	President	Hy. Glendinning	Manilla.
	1st Vice-President	Robt. Monroe	Uxbridge.
	2nd Vice-President	Jno. McNabb	Brechin.
	Secretary	J. W. Widdifield	Uxbridge.

Institute.		Names.	P. O. Address.
Ontario, South	President	Luther Middleton	Brougham.
	Vice-President	James McKenzie	Columbus.
	Secretary	Robt. H. Cronk	Whitby.
Oxford, North	President	A. W. Harwood	Innerkip.
	1st Vice-President	F. W. Goble	Woodstock.
	2nd Vice-President	W. W. Day	Thamesford.
	Secretary	J. A. Lattimer	Woodstock.
Oxford, South	President	W. S. Scott	Tillsonburg.
	Vice-President	J. H. Cohoe	Burgessville.
	Secretary	B. G. Palmer	Norwich.
Parry Sound, East	President	Jno. Paget	Sundridge.
	1st Vice-President	G. E. Gibbon	Sundridge.
	2nd Vice-President	Jas. Cole	South River.
	Secretary	Thos. Bottomley	South River.
Parry Sound, West	President	J. N. Haines	Parry Sound.
	Vice-President	Jno. Hunt	Parry Sound.
	Secretary	Joseph Ryder	Parry Sound.
Peel	President	Jas. Collins	Woodhill.
	Vice-President	Robt. McCulloch	Snelgrove.
	Secretary	Geo. Downey	R.M.D. No. 2, Bolton.
Perth, North	President	H. Hemsworth	Gowanstown.
	Vice-President	R. Armstrong	Wartburg.
	Secretary	Milton Adolph	Gowanstown.
Perth, South	President	Samuel Doupe	Kirkton.
	Vice-President	Dougald McDougal	Mitchell.
	Secretary	Duncan McVannel	St. Mary's.
Peterboro, East	President	F. Birsall	Birdsall.
	Vice-President	E. Hawthorne	Warsaw.
	Secretary	Chas. O' Reilly	Norwood.
Peterboro, West	President	C. E. Moore	R.R. 2, Peterboro.
	Vice-President	A. McGregor	R.R. 2, Peterboro.
	Secretary	Wm. Collins	242 Romaine St., Peterboro.
Prescott	President	Geo. Rennick	Vankleek Hill.
	1st Vice-President	Gilbert Kirkpatrick	Vankleek Hill.
	2nd Vice-President	Chas. Byers	Stepheny.
	Secretary	Jas. Allison	Stardale.
Prince Edward	President	Wm. B. Leavens	Chisholm.
	Vice-President	Peter Collier	South Bay.
	Secretary	A. M. Platt	Picton.
Rainy River	President	A. D. Whiddon	Devlin.
	Vice-President	J. L. Locking	Emo.
	Secretary	T. A. Boucher	Emo.
Renfrew, North	President	O. Wright	Beachburg.
	Vice-President	Geo. Forbes	Beachburg.
	Secretary	Wm. Headrick	Beachburg.
Renfrew, South	President	J. F. Blane	No. 1, Renfrew.
	1st Vice-President	J. B. McLaren	No. 1, Renfrew.
	2nd Vice-President	J. B. Ferguson	R.R. No. 2, Renfrew.
	Secretary	G. MacIntyre	R.R. No. 1, Renfrew.
Russell	President	John Gamble	Cumberland.
	Vice-President	Cyrus Craig	Metcalfe.
	Secretary	W. J. W. Lourie	Russell.
Simcoe, Centre	President	Daniel Wood	Minesing.
	Vice-President	Thos. Rankin	Wyebridge.
	Secretary	James Coutts	Midhurst.
Simcoe, East	President	Alex. Cuppage	Orillia.
	Vice-President	C. S. Harrie	Orillia.
	Secretary	R. C. Hipwell	Orillia.
Simcoe, South	President	I. N. Morton	Lefroy.
	Vice-President	Jas. Stephens	Newton Robinson.
	Secretary	J. A. Kidd	Cookstown.

Institute.		Names.	P. O. Address.
Simcoe, West	Hon. President	Jno. McKee	Duntroon.
	President	David Smith	Smithdale.
	1st Vice-President	Jno. Smith	Duntroon.
	2nd Vice-President	Robt. Murray	Avening.
	Secretary	J. A. McDermid	Batteau.
St. Joseph Island	President	Joseph Frarey	Richards Landing.
	Secretary	J. G. Reesor	Carterton.
Stormont	President	Felix McLaughlin	Avonmore.
	Vice-President	A. T. Shaver	Lunenburg.
	Secretary	D. H. McDiarmid	R. No. 2, Moose Creek.
Temiskaming	President	Jno. Sharp	New Liskeard.
	Vice-President	Jos. Henderson	Milberta.
	Secretary	Thos. J. Norris	Thornloe.
Thunder Bay	President	Jno. Edmonds	Dorion.
	Vice-President	Robt. McKenzie	Murillo.
	Secretary	A. W. Trewin	Slate River.
Victoria, East	President	Isaac H. Fee	R.M. 2, Omemee.
	Vice-President	Wm. H. Cullis	Powles Cors.
	Secretary	Wm. Thurston	Bobcaygeon.
Victoria, West	President	Geo. H. Mark	Little Britain.
	Vice-President	Jno. Cultis	R.M.D., Oakwood.
	Secretary	James Keith	Lindsay.
Waterloo, North	President	M. L. Weber	St. Jacobs.
	1st Vice-President	Jas. H. Woods	Winterbourne.
	2nd Vice-President	J. A. Steiss	Heidleburg.
	Secretary	Allan Shantz	Waterloo.
Waterloo, South	President	J. C. Hallman	New Dundee.
	1st Vice-President	Levi Masters	Haysville.
	2nd Vice-President	Wm. Elliott	Galt.
	Secretary	Wm. J. Douglas	Galt.
Welland	President	Nathan Day	Ridgeway.
	Vice-President	Geo. W. Green	Niagara Falls S.
	Secretary	W. H. Gainer	Welland.
Wellington, Centre	President	W. L. Gordon	No. 1, Elora.
	Vice-President	Wm. B. McGowan	Marsville.
	Secretary	Geo. Wright	Elora.
Wellington, East	President	Alfred Hutchinson	Mt. Forest.
	Vice-President	Donald McQueen	Conn.
	Secretary	David S. Ferguson	Conn.
Wellington, South	Hon. President	Wm. Scott	R.R. 3, Rockwood.
	President	Samuel Young	R.R. 2, Guelph.
	1st Vice-President	T. J. Mahon	Aberfoyle.
	2nd Vice-President	A. F. Auld	R.R. 2, Guelph.
	Secretary	Jno. A. Cockburn	R.R. 1, Puslinch.
Wellington, West	President	W. C. Quickfall	Glenallan.
	Vice-President	Marshall Smith	Palmerston.
	Secretary	E. G. Henry	Drayton.
Union	President	Jno. Pritchard	Redgrave.
	Vice-President	David Campbell	R.R. No. 1, Clifford.
	Secretary	Jno. R. Scott	Clifford.
Wentworth, North	President	Wm. McFarlane	Harpers Cors.
	1st Vice-President	Jno. Bennett	Carlisle.
	2nd Vice-President	Edwin McKnight	Rocklin.
	Secretary	Alfred Purnell	Puslinch.
Wentworth, South	President	H. L. Beckett	Hamilton.
	Vice-President	Samuel Grant	Jerseyville.
	Secretary	Hiram A. Fletcher	Hannon.
York, East	President	Wm. Doherty	Eglinton.
	Vice-President	H. K. Clark	Agincourt.
	Secretary	James T. Stewart	Agincourt.
York, North	President	Jno. A. Rose	Mt. Albert.
	Vice-President	Thos. H. Legge	Temperanceville.
	Secretary	H. E. Ross	Strange.
York, West	President	Ed. Stonehouse	R.R., Weston.
	Vice-President	Jno. Jackson	Elia.
	Secretary	Robt. L. Crawford	R.R., Weston.

DISTRICT REPRESENTATIVES TO ATTEND REGULAR AND SUPPLEMENTARY INSTITUTE MEETINGS.

The District Representatives are not in a position in a number of districts to state definitely early in the season the dates upon which they will be available for regular Institute work in their respective ridings. The officers of the Institutes and the District Representatives will be expected to make the best arrangement possible in so far as the services of the District Representatives at regular and supplementary meetings are concerned and make announcements accordingly. The Officers of the Institute should not announce representatives or their assistants for Institute meetings until they have their consent. For the most part the department has announced only one gentleman speaker for those meetings, which it is hoped District Representatives will be able to attend. If the officers find as the time for holding the meetings draws near that they cannot depend upon the District Representatives for assistance and they desire an additional speaker, they should make application to the department for another speaker. The Institute Officers are requested to take this matter up with the District Representatives at their earliest convenience. Below we give a list of the representatives:

DISTRICT REPRESENTATIVES OF THE ONTARIO DEPARTMENT OF AGRICULTURE.

County.	*Representative.*	*Address.*
Algoma	A. S. Smith	Sault Ste. Marie.
Brant	R. Schuyler	Paris.
Bruce	N. C. McKay	Walkerton
Carleton	W. D. Jackson	Carp
Dufferin	H. A. Dorrance	Orangeville.
Dundas	E. P. Bradt	Morrisburg.
Durham	R. S. Duncan	Port Hope.
Elgin	C. W. Buchanan	Dutton.
Essex	W. E. J. Edwards	Essex.
Frontenac	J. G. Taggart	Sydenham.
Glengarry	D. E. MacRae	Alexandria.
Grey	H. C. Duff	Markdale.
Haldimand	H. M. King	Cayuga.
Hastings	A. D. McIntosh.	Stirling.
Kent	G. P. McRostie	Chatham.
Lambton	G. G. Bramhill	Petrolea.
Lanark	W. Dawson	Perth.
Leeds and Grenville	W. H. Smith	Athens.
Lennox and Addington	G. B. Curran	Napanee.
Manitoulin	I. F. Metcalf	Gore Bay.
Middlesex	I. B. Whale	London (Box 663). Office 16, Masonic Temple.
Norfolk	R. H. Murray	Simcoe.
Northumberland	R. S. Beckett	Brighton.
Ontario	R. M. Tipper	Whitby.
Oxford	G. R. Green	Woodstock.
Peel	W. H. J. Tisdale	Brampton.
Peterboro	F. C. McRae	Norwood.
Prince Edward	A. P. MacVannel	Picton.
Rainy River	H. M. McElroy	Emo.
Renfrew	J. L. Tennant	Renfrew.
Simcoe	J. Laughland	Collingwood.
Temiscaming	G. A. Galbraith	New Liskeard.
Thunder Bay	G. W. Collins	Fort William.
Victoria	A. A. Knight	Lindsay.
Waterloo	F. C. Hart	Galt.
Welland	R. Austin	Welland.
York	J. C. Steckley	Newmarket.

SPECIAL SERIES OF MEETINGS TO BE ARRANGED FOR THROUGH THE CO-OPERATION OF THE DISTRICT REPRESENTATIVES, THE LOCAL OFFICERS OF THE FARMERS' INSTITUTES AND THE INSTITUTES BRANCH.

During the winter of 1912-13 the District Representatives in twelve counties arranged for special meetings, which were addressed by themselves. The plan followed was for three representatives working in adjoining counties to assist each other in giving addresses, exhibiting illustrative and demonstrative material and discussing questions of local interest. These meetings on the whole were successful, and it has been thought well to extend the work during the winter of 1913-14. Consequently the representatives in the counties indicated below are arranging for special meetings at the places named. Many of these meetings will replace meetings which would otherwise have been included in the regular Institute list and addressed by speakers sent out from the Department, while the Representatives have included in their lists a number of points at which meetings would not otherwise have been held. We trust that the executive officers of the Institutes, as well as the directors in the localities concerned, will co-operate with the Representatives in making this series of meetings a success.

District Representatives will set dates and arrange for the advertising of these meetings. In some cases it will be advisable to announce the Institute meetings, as well as the Special Series on the same bills. This is a matter which must be arranged between the Representatives concerned and the Institute Officers. Where the finances of the Institute will warrant it, the Department will expect the Institute to bear a portion of the expense in advertising the Special Series of meetings. It is also expected that the Institute will use their influence in securing halls or other suitable places for the Special Series free of cost to the Department.

The Institute should have a representative at each of the Special Series of meetings, with a view to soliciting membership.

List of places at which Special Series of meetings will be held:

County.	*Places of Meeting.*
Brant	East Oakland School, St. George, White School, between Paris and Ayr.
Bruce	Chesley, Lucknow, Ripley, Tara, Williscroft.
Carleton	Kinburn, Richmond, South March.
Dufferin	Grand Valley, Horning's Mills, Laurel, Marsville.
Elgin	Iona, Lyons, Rodney, Yarmouth.
Essex	Belle River, Canard River, McGregor.
Frontenac	Dufferin, Sunbury, Sydenham, Westbrook.
Grey	Chatsworth, Hanover, Markdale, Priceville, Rocklyn.
Hastings	Ivanhoe, Phillipston, Ridge Road School House (east of Stirling), Roslin.
Kent	Botany, Fletcher, Kent Centre.
Lanark	Clayton, Drummond Centre, Middleville.
Lennox and Addington	Adolphustown, Centreville, Odessa, Tamworth, Wilton.
Northumberland	Brighton, Cold Springs, Roseneath, Campbellford.
Peel	Castlemore, Caledon East, Meadowvale, Mono Mills., Sand Hill, Streetsville.
Peterboro	Douro, Warsaw, Westwood.
Prince Edward	Carrying Place, Cherry Valley, Demorestville, Waupoos.
Renfrew	Beachburg, Cobden, Kilaloo.
Simcoe	Churchill, Coldwater, Creemore, Elmvale.
Waterloo	Branchton, Breslau, Floradale, St. Jacobs.
York	Bloomington, Kettleby, Maple, Markham.

INSTITUTE MEETINGS AND DELEGATES THEREFOR, 1913-14.

It is usual to have afternoon and evening sessions at each place, the former at 1.30 or 2.00, and the latter at 7.30 or 8.00 o'clock. The exact hour of meeting is decided by the officers of the Institute concerned, and announcements made accordingly. "Aft." indicates an afternoon meeting only; "Evg." an evening meeting only.

REGULAR MEETINGS.

Division 1.

L. E. Bowes, Strathnairn, Jan. 7 to 31.
A. E. Wark, Wanstead, Jan. 19, 20; 28 to 31.
Miss M. E. Murdock, Palmerston, Jan. 7 to 31.

1	Lion's Head, Town Hall	North Bruce (aft)	Jan.	7
2	Spry School	North Bruce (evg)	"	7
3	Hope Bay, No. 7 School House	North Bruce (aft)	"	8
4	Hope Bay, No. 3	North Bruce (evg)	"	8
5	Wiarton, Town Hall	North Bruce (aft)	"	9
6	Mar, School	North Bruce (evg)	"	9
7	Hepworth, Down's Temperance Hall	North Bruce (aft)	"	12
8	Spring Creek, School	North Bruce (evg)	"	12
9	Parkhead	North Bruce (aft. and evg)	"	13
10	Gillie's Hill, Township Hall	Centre Bruce	"	14
11	Paisley, Town Hall	Centre Bruce	"	15
12	Cargill, Public Library	Centre Bruce	"	16
13	Clifford, Town Hall	Union	"	19
14	Lavery's School House	Union	"	20
15	Teeswater, Town Hall	South Bruce	"	21
16	Bervie	Centre Bruce	"	22
17	Kincardine	Centre Bruce	"	23
18	Reed's Corners	Centre Bruce	"	24
19	Dungannon, Orange Hall	West Huron	"	26
20	Auburn, Temperance Hall	West Huron	"	27
21	Hornby	Halton	"	28
22	Omagh	Halton	"	29
23	Palermo	Halton	"	30
24	Sheridan	Halton	"	31

Division 2.

A. R. G. Smith, New Hamburg, Jan. 7 to Feb. 5.
Miss J. C. Smith, Powassan, Jan. 7 to Feb. 5.

1	Milverton, Cook's Hall	North Perth (aft).	Jan.	7
2	Millbank, Rettie's Hall	North Perth (evg)	"	7
3	Shakespeare, Temperance Hall	North Perth	"	8
4	Mitchell, Town Hall	South Perth	"	9
5	St. Mary's, Town Hall	South Perth	"	10
6	Thorndale, Harding's Hall	East Middlesex	"	12
7	Harrietsville, Oddfellow's Hall	East Middlesex	"	13
8	Wilton Grove, Sunday School	East Middlesex	"	14
9	Birr, Town Hall	East Middlesex	"	15
10	Parkhill	North Middlesex	"	19
11	Greenway, Wilson's Hall	North Middlesex	"	20
12	Mt. Carmel, Hall	North Middlesex	"	21
13	West McGillivray, Town Hall	North Middlesex	"	22
14	Clandeboye, Town Hall	North Middlesex	"	23
15	Ailsa Craig, Town Hall	North Middlesex	"	24
16	Grand Bend, Benner Hall	South Huron	"	26
17	Zurich, Town Hall	South Huron	"	27
18	Alvinston, Town Hall	East Lambton	"	28
19	Powell's School House, Section 10	East Lambton	"	29

20	Inwood	East Lambton	Jan. 30
21	Shetland	East Lambton	" 31
22	Sarnia, Township Hall	West Lambton (aft)	Feb. 2
23	Lucasville, School House	West Lambton (evg)	" 2
24	Becher, Foresters' Hall	West Lambton	" 3
25	Rutherford, Township Hall	West Lambton	" 4
26	Brigden, Foresters' Hall	West Lambton	" 5

Division 3.

D. James, Thornhill, Jan. 7 to Feb. 5.
E. Dyment, Copetown, Jan. 26 to Feb. 5.
Miss B. Gilholm, Bright, Jan. 7 to Feb. 5.

1	Mt. Elgin, Foresters' Hall	South Oxford	Jan. 7
2	Norwich, Town Hall	South Oxford	" 8
3	Courtland, Town Hall	North Norfolk	" 9
4	Delhi, Town Hall	North Norfolk	" 10
5	Langton, Town Hall	South Norfolk	" 12
6	Vittoria, Lecture Room	South Norfolk	" 13
7	Waterford, Town Hall	North Norfolk	" 14
8	Bealton, Hall	North Norfolk	" 15
9	Aylmer, Opera House, two days	East Elgin	16 and 17
10	Talbotville, Orange Hall	West Elgin	" 19
11	Fingal	West Elgin	" 20
12	Wallacetown	West Elgin	" 21
13	Middlemiss, Village Hall	West Middlesex	" 22
14	Walker's School House	West Middlesex	" 23
15	Clachan	West Elgin	" 24
16	Highgate, Township Hall	East Kent	" 26
17	Morpeth, A.O.U.W. Hall	East Kent	" 27
18	Guilds' School House	East Kent	" 28
19	Mull, School House	East Kent	" 29
20	Kingsville, Town Hall, two days	South Essex	30 and 31
21	Oldcastle, Town Hall	North Essex	Feb. 2
22	South Woodslee, Pemberton Hall	North Essex	" 3
23	Eberts, Township Hall	West Kent	" 4
24	Louisville, Private Hall	West Kent	" 5

Division 4.

R. H. Lewis, Hamilton, Jan. 7 to 30.
C. Schuyler, Brantford, Jan. 7 to 9; Feb. 2 to 5.
F. M. Johnston, Boston, Jan. 16 to 21.
Mrs. M. L. Woelard, Toronto, Jan. 7 to Feb. 5.

1	Waterdown, Township Hall	North Wentworth	Jan. 7
2	Freelton, Moore's Hall	North Wentworth	" 8
3	Rockton, Township Hall	North Wentworth	" 9
4	Oshweken, Council Hall	South Brant	" 12
5	Mt. Pleasant, Church Basement	South Brant	" 13
6	Scotland, Foresters' Hall	South Brant	" 14
7	Burford, Cornish Hall	South Brant	" 15
8	Ancaster, Town Hall	South Wentworth	" 16
9	Stoney Creek, Institute Hall	South Wentworth	" 19
10	Campden, Hedden's Hall	Lincoln	" 20
11	Queenston, School House	Lincoln	" 21
12	Allanburg	Welland	" 22
13	Quaker Road, School House	Welland	" 23
14	Stevensville, School House	Welland	" 24
15	Brookfield, School House	Welland	" 26
16	Pelham Centre, Town Hall	Monck	" 27
17	Silverdale, School House	Monck	" 28
18	Canboro, Town Hall	Monck	" 29
19	Caisterville, Church Basement	Monck	" 30
20	York, Town Hall	Haldimand	Feb. 2
21	Clanbrassil, Church Basement	Haldimand	" 3
22	Rainham Centre, Town Hall	Haldimand	" 4
23	Nanticoke, Hale Hall	Haldimand	" 5

Division 5.

Gavin Barbour, Crosshill, Jan. 7 to Feb. 3.
I. N. Morton, Lefroy, Jan. 14 to 16.
Mrs. H. W. Parsons, Forest, Jan. 7 to Feb. 3.

1	Onondaga, Township Hall	North Brant	Jan.	7
2	Cainsville, Orange Hall	North Brant	"	8
3	Tranquility, School House	North Brant	"	9
4	St. George, Library Hall	North Brant	"	10
5	Aberfoyle, Town Hall	South Wellington	"	12
6	S. S. No. 2, Guelph, Township S.H.	South Wellington	"	13
7	Glen Allan, Coot's Hall	West Wellington	"	14
8	Drayton, Town Hall	West Wellington	"	15
9	Rothsay, Temperance Hall	West Wellington	"	16
10	Mt. Forest, Allen's Hall	East Wellington	"	17
11	Cedarville, Orange Hall	East Wellington	"	19
12	Monticello, Orange Hall	East Wellington	"	20
13	Grand Valley, Council Chamber	East Wellington	"	21
14	Batteau, School House	West Simcoe	"	23
15	Stayner	West Simcoe	"	24
16	Sunnidale Corners, Mill's Hall	West Simcoe	"	26
17	New Lowell, Township Hall	West Simcoe	"	27
18	Craighurst	East Simcoe	"	28
19	Crown Hill	East Simcoe	"	29
20	Ore Station	East Simcoe	"	30
21	Shanty Bay	East Simcoe (aft)	"	31
22	Thornton, Temperance Hall	South Simcoe	Feb.	2
23	Bond Head, Orange Hall	South Simcoe	"	3

Division 5a.

H. K. Denyes, Halloway, Jan. 12 to 29.
Miss Ethel Robson, Ilderton, Jan. 12 to 29.

1	Linwood	North Waterloo	Jan.	12
2	Elmira	North Waterloo	"	13
3	West Montrose	North Waterloo	"	14
4	Winterbourne	North Waterloo	"	15
5	Hespeler	South Waterloo	"	16
6	Preston	South Waterloo	"	19
7	Galt	South Waterloo	"	20
8	Branchton	South Waterloo	"	21
9	Roseville	South Waterloo	"	22
10	Ayr	South Waterloo	"	23
11	Glen Morris, Foresters' Hall	North Brant	"	26
12	Oak Park Farm, Moyle's School	North Brant	"	27
13	Middleport, McKelvey's Hall	North Brant	"	28
14	White School, north of Brantford	North Brant	"	29

Division 6.

Andrew Elliott, Galt, Nov. 24 to Dec. 19.
J. B. Fairbairn, Beamsville, Nov. 26 to Dec. 5.
Mrs. M. L. Woelard, Toronto, Nov. 24 to Nov. 27; Dec. 1 to 5; Dec. 16, 17, 19.

1	Woodbridge, Orange Hall	West York	Nov.	24
2	Islington, Township Hall	West York	"	25
3	Nelson, Council Chamber	Halton	"	26
4	Kilbride, Village Hall	Halton	"	27
5	Norval	Halton	"	28
6	Ballinafad	Halton	Dec.	1
7	Ospringe, School House	Centre Wellington	"	2
8	Hillsburg, Town Hall	Centre Wellington	"	3
9	Cumnock, School House	Centre Wellington	"	4
10	Bethany, Methodist Church	Centre Wellington	"	5

11 Agincourt	East York	Dec.	16
12 Box Grove	East York	"	17
13 Stouffville	East York	"	18
14 Victoria Square	East York	"	19

Division 7.

W. J. Kerr, Woodroffe, Nov. 24 to Dec. 10.
E. Dyment, Copetown, Nov. 24 to Dec. 1; 8, 9, 10.
Mrs. E. B. McTurk, Lucan, Nov. 24 to Dec. 10.

1 Keswick, Town Hall	North York	Nov.	24
2 King, Crossley's Hall	North York	"	25
3 Whitevale, Oddfellows' Hall	South Ontario	"	26
4 Claremont, Mason's Hall	South Ontario	"	27
5 Greenbank, Temperance Hall	South Ontario	"	28
6 Columbus, Town Hall	South Ontario	Dec.	1
7 Nestleton	West Durham	"	2
8 Kendal, Foresters' Hall	West Durham (aft)	"	3
9 Newtonville, S.O.T. Hall	West Durham (evg)	"	3
10 Orono, Council Room	West Durham	"	4
11 Bowmanville, Council Chamber	West Durham	"	5
12 Mount Pleasant, Foresters' Hall	East Durham (aft)	"	8
13 Cavanville, Old Church	East Durham (evg)	"	8
14 Manvers' Station, Orange Hall	East Durham	"	9
15 Pontypool, Foresters' Hall	East Durham	"	10

Division 8.

J. N. Paget, Canboro, Nov. 26 to Dec. 6.
H. K. Denyes, Halloway, Dec. 1 to 6.
Miss M. V. Powell, Whitby, Nov. 26 to 29; Dec. 3 to 6.

1 Bobcaygeon, Town Hall	East Victoria	Nov.	26
2 Fenelon Falls, Dickson's Hall	East Victoria	"	27
3 Little Britain, Temperance Hall	West Victoria	"	28
4 Hartley	West Victoria	"	29
5 Ennismore, Town Hall	West Peterboro	Dec.	1
6 Lakefield, Orange Hall	West Peterboro	"	2
7 Douro	East Peterboro (aft)	"	3
8 O'Grady's School, Otonabee	East Peterboro (evg)	"	3
9 Keene	East Peterboro	"	4
10 Grafton, Township Hall	West Northumberland	"	5
11 Harwood, Boyle's Hall	West Northumberland	"	6

Division. 9.

W. C. Shearer, Bright, Dec. 1 to 13.
Mrs. F. W. Watts, Toronto, Dec. 1 to 13.

1 Newburgh, Standard Bank Hall	Addington	Dec.	1
2 Enterprise, Keech's Hall	Addington	"	2
3 Thomasburg, I.O.O.F. Hall	East Hastings	"	3
4 Halston	East Hastings	"	4
5 Read	East Hastings	"	5
6 Melrose, Town Hall	East Hastings	"	6
7 Frankford, Foresters' Hall	West Hastings	"	8
8 Wallbridge, Town Hall	West Hastings	"	9
9 Gilbert's, School House	West Hastings	"	10
10 Bayside, School House	West Hastings	"	11
11 Rednersville	Prince Edward	"	12
12 Bloomfield, Town Hall	Prince Edward	"	13

Division 10.

H. Grose, Lefroy, Dec. 3 to 17.
Miss S. Campbell, Brampton, Dec. 5 to 17.

1	Hartington	Frontenac	Dec.	3
2	Wolfe Island	Frontenac	"	4
3	Seeley's Bay, Select Knights	South Leeds	"	5
4	Lansdowne, Town Hall	South Leeds	"	6
5	Algonquin, School House	South Grenville	"	8
6	Shanley	South Grenville	"	9
7	South Mountain	Dundas	"	10
8	Chesterville	Dundas	"	11
9	Perth, Town Hall	South Lanark	"	12
10	Maberly, Town Hall	South Lanark	"	13
11	Elphin, Public Hall	North Lanark	"	15
12	Mountain Grove, Town Hall	Centre Frontenac	"	16
13	Parham, I.O.O.F. Hall	Centre Frontenac	"	17

Division 11.

R. E. Harkness, Irena, Nov. 25 to Dec. 13.
C. Mallory, Bloomfield, Nov. 25 to Dec. 13.
Dr. Annie Backus, Aylmer, Dec. 4 to 10.

1	Vankleek Hill, Town Hall	Prescott	Nov.	25
2	Alexandria, Fire Hall	Glengarry	"	26
3	Maxville, Public Hall	Glengarry	"	27
4	Martintown, St. Andrew's Hall	Glengarry	"	28
5	Monkland, Truat Hall	Stormont	Dec.	1
6	Avonmore, Beaver's Hall	Stormont	"	2
7	Metcalfe	Russell	"	3
8	Vernon	Russell	"	4
9	Kars, Public Hall	Carleton	"	5
10	North Gower, Township Hall	Carleton	"	8
11	Manotick, Harmony Hall	Carleton	"	9
12	Merivale, School House	Carleton	"	10
13	Eganville, School House	South Renfrew	"	11
14	Brudenell	South Renfrew	"	12
15	Combermere	South Renfrew	"	13

SUPPLEMENTARY MEETINGS.

Division 1.

Albert Swinn, Mabee, Jan. 7 to 24.
Miss S. Campbell, Brampton, Jan. 7 to 24.

1	Fordwich, Brown's Hall	East Huron	Jan.	7
2	Molesworth, Orange Hall	East Huron	"	8
3	Jamestown, Victoria Hall	East Huron	"	9
4	Bluevale, Foresters' Hall	East Huron	"	10
5	Ethel, Township Hall	East Huron	"	12
6	Moncrieff, School House	East Huron	"	13
7	Walton, School	East Huron	"	14
8	Winthrop, Calder's Hall	East Huron	"	15
9	Harlock, School House	East Huron	"	16
10	Belgrave, Foresters' Hall	East Huron	"	17
11	Londesboro, Foresters' Hall	West Huron	"	19
12	Holmesville, Holmes' Hall	West Huron	"	20
13	Carlow, Township Hall	West Huron	"	21
14	St. Augustine, Church Hall	West Huron	"	22
15	St. Helen's, Mechanics Institute Hall	West Huron	"	23
16	Kintail, McDonald Hall	West Huron	"	24

Division 2.

R. L. Moorehouse, Cairo, Jan. 7 to 27.
J. N. Perdue, Massey, Jan. 7 to 12.
Mrs. I. W. Watts, Toronto, Jan. 13 to 21.
Mrs. E. B. McTurk, Lucan, Jan. 23 to 27.

1	Tiverton, Town Hall	West Bruce	Jan.	7
2	Underwood, Town Hall	West Bruce	"	8
3	McLennan, School House	West Bruce (aft)	"	9
4	Burgoyne, Church Vestry	West Bruce (evg)	"	9
5	Port Elgin, Town Hall	West Bruce	"	10
6	Allanford, Orange Hall	West Bruce	"	12
7	Walter's Falls, A.O.U.W. Hall	Centre Grey	"	13
8	Heathcote, Public Hall	Centre Grey	"	14
9	Ravenna, Township Hall	Centre Grey	"	15
10	Kimberley, Union Hall	Centre Grey	"	16
11	Flesherton	Centre Grey	"	17
12	Hopeville	Centre Grey	"	19
13	Badjeros, School House	Centre Grey	"	20
14	Maxwell, Orange Hall	Centre Grey	"	21
15	Singhampton, Ross' Hall	West Simcoe	"	23
16	Dunedin, Jackson's Hall	West Simcoe	"	24
17	Duntroon, S.O.S. Hall	West Simcoe	"	25
18	Everett, Orange Hall	West Simcoe	"	26
19	Alliston, Council Chamber	West Simcoe	"	27

Division 3.

A. R. G. Smith, New Hamburg, Nov. 24 to Dec. 5; Dec. 16 to 19.
Miss J. C. Smith, Powassan, Nov. 24 to Dec. 6; Dec. 16 to 19.

1	Dalston, School House	Centre Simcoe	Nov.	24
2	Minesing, W. Hall	Centre Simcoe	"	25
3	Anten Mills, School House	Centre Simcoe	"	26
4	Edenvale, Church Hall	Centre Simcoe	"	27
5	New Flos, Public Hall	Centre Simcoe	"	28
6	Allenwood, Church Hall	Centre Simcoe	"	29
7	Flos Township, No. 2, School House	Centre Simcoe	Dec.	1
8	Wyevale, Orange Hall	Centre Simcoe	"	2
9	Wyebridge, Public Hall	Centre Simcoe	"	3
10	Abenezer	Centre Simcoe	"	4
11	Victoria Harbour, Town Hall	East Simcoe	"	5
12	Lafontaine, Marshaldon Hall	East Simcoe	"	6
13	Ardtrea	East Simcoe (aft)	"	16
14	Uhthoff	East Simcoe (evg)	"	16
15	Warminster	East Simcoe (aft)	"	17
16	Jarratt's	East Simcoe (evg)	"	17
17	Rugby	East Simcoe (aft)	"	18
18	Mitchell Square	East Simcoe (evg)	"	18
19	Edgar	East Simcoe (aft)	"	19
20	Guthrie	East Simcoe (evg)	"	19

Division 4.

G. Barbour, Crosshill, Nov. 24 to Dec. 8.
L. D. Hankinson, Aylmer, Nov. 24 and 25.
Miss Ethel Robson, Ilderton, Nov. 24 to Dec. 8.

1	Brussels	East Huron	Nov.	24
2	Gorrie	East Huron	"	25
3	Belmore, Foresters' Hall	South Bruce	"	26
4	Holyrood, Township Hall	South Bruce	"	27
5	Walkerton, Town Hall	South Bruce	"	28
6	Elmwood, Wildfong's Hall	South Grey	Dec.	1
7	Dornoch, Smith's Hall	South Grey	"	2
8	Durham, Town Hall	South Grey (aft)	"	3

9	Varney, Orange Hall	South Grey (evg)	Dec.	3
10	Holstein, Agricultural Hall	South Grey	"	4
11	Ayton, Doersam's Hall	South Grey	"	5
12	Dromore, Russell Hall	South Grey	"	6
13	Glenelg Centre, Township Hall	South Grey	"	8

Division 5.

C. W. Gurney, Paris, Feb. 9 to 24.
J. B. Fairbairn, Beamsville, Feb. 9 to 14.
F. H. Silcox, Iona, Feb. 25 to 27.
Mrs. E. B. McTurk, Lucan, Feb. 17 to 27.

1	Thedford, King Edward Hall	East Lambton	Feb.	9
2	Arkona, Town Hall	East Lambton	"	10
3	Forest	East Lambton	"	11
4	Uttoxeter, Maccabees' Hall	East Lambton	"	12
5	Camlachie, Maccabees' Hall	East Lambton	"	13
6	Warwick	East Lambton	"	14
7	Wyoming	East Lambton	"	16
8	Oakdale, School House	West Lambton	"	17
9	Bentpath, School House	West Lambton	"	18
10	Wilkesport, Regan's Hall	West Lambton	"	19
11	Courtwright, Stewart's Hall	West Lambton (aft)	"	20
12	Corunna, Proctor's Hall	West Lambton (evg)	"	20
13	Colinville, C.O.F. Hall	West Lambton	"	21
14	Bunyan, School House	West Lambton	"	23
15	Petrolea, Council Chamber	West Lambton	"	24
16	Komoka, Town Hall	North Middlesex	"	25
17	Coldstream	North Middlesex	"	26
18	Beechwood, Foresters' Hall	North Middlesex	"	27

Division 6.

Anson Groh, Preston, Feb. 9 to 28.
F. M. Johnson, Boston, Feb. 13 to 17.
R. Murphy, Alliston, Feb. 25 to 28.
Mrs. W. Dawson, Parkhill, Feb. 9 to 12; 18 to 24.

1	Clifford, Town Hall	Union	Feb.	9
2	Lakelet, Derrock Hall	Union	"	10
3	Drew, Temperance Hall	Union	"	11
4	Teviotdale, Foresters' Hall	Union	"	12
5	Listowel, Town Hall	North Perth (aft)	"	13
6	Carthage, Foresters' Hall	North Perth (evg)	"	13
7	Atwood, Agricultural Hall	North Perth	"	14
8	Monkton, Hall	North Perth	"	16
9	Rostock, Town Hall	North Perth	"	17
10	Tavistock, Opera House	South Perth	"	18
11	Sebringville, Foresters' Hall	South Perth	"	19
12	St. Pauls, Township Hall	South Perth	"	20
13	Fullerton, Township Hall	South Perth	"	21
14	Staffa, Town Hall	South Perth	"	23
15	Kirkton, Aberdeen Hall	South Perth	"	24
16	Elimville, Town Hall	South Huron	"	25
17	Exeter	South Huron	"	26
18	Hensall, McDonald's Hall	South Huron	"	27
19	Brucefield	South Huron	"	28

Division 7.

J. N. Paget, Canboro, Feb. 9 to 20.
J. W. Clark, Cainsville, Feb. 23 to Mar. 4.
Gavin Barbour, Crosshill, Mar. 2 to 4.
Mrs. W. J. Hunter, Pleasant, Feb. 9 to 20.
Miss S. Campbell, Brampton, Feb. 23 to Mar. 4.

1	Princetown, Town Hall	North Oxford	Feb.	9
2	Innerkip, Foresters' Hall	North Oxford	"	10
3	Plattsville, Town Hall	North Oxford	"	11
4	Cassell, Cheese Factory	North Oxford	"	12
5	Hickson, Town Hall	North Oxford	"	13
6	Braemar, Gospel Hall	North Oxford	"	16
7	Embro, Town Hall	North Oxford	"	17
8	Harrington, Hall	North Oxford	"	18
9	Kintore, Company Hall	North Oxford	"	19
10	Thamesford, Foresters' Hall	North Oxford	"	20
11	Wellburn, Foresters' Hall	East Middlesex	"	23
12	Hyde Park, Foresters' Hall	East Middlesex	"	24
13	Lambert	East Middlesex	"	25
14	Crampton, Forman's Hall	East Middlesex	"	26
15	Appin, Town Hall	West Middlesex	Mar.	2
16	Glencoe, Town Hall	West Middlesex	"	3
17	Wardsville, Town Hall	West Middlesex	"	4

Division 8.

A. R. G. Smith, New Hamburg, Feb. 9 to 23.
S. M. Pearce, Iona, Feb. 2 to 6.
Mrs. M. L. Woelard, Toronto, Feb. 10 to 23.

1	Eden	East Elgin	Feb.	2
2	Vienna	East Elgin	"	3
3	Grove's End, School House	East Elgin	"	4
4	Sparta, Town Hall	East Elgin	"	5
5	Mapleton, School House	East Elgin	"	6
6	Shedden, Morrison's Hall	West Elgin	"	9
7	West Lorne, Town Hall	West Elgin	"	10
8	Botany, Botany Church	East Kent	"	11
9	Thamesville, Town Hall	East Kent	"	12
10	Croton, Young's Hall	East Kent	"	13
11	Wabash, Foresters' Hall	East Kent	"	14
12	**Kent Bridge, Langford Hall**	**East Kent**	"	16
13	Kent Centre, K.C. Hall	East Kent	"	17
14	Dover Centre, School	West Kent	"	18
15	S.S. No. 6, Dover Raleigh School	West Kent	"	19
16	Fletcher, Foresters' Hall	West Kent	"	20
17	Valetta, Township Hall	West Kent	"	21
18	Wheatley, Gibson's Hall	West Kent and South Essex	"	23

Division 8A.

S. H. Rittenhouse, Jordan Harbor, Feb. 9 to 21.
Mrs. F. W. Watts, Toronto, Feb. 9 to 18.

1	Wheatley, Gibson's Hall	South Essex	Feb.	9
2	Leamington, Town Hall	South Essex	"	10
3	Blytheswood, Town Hall	South Essex	"	11
4	Cottam, Town Hall	South Essex	"	12
5	Essex	South Essex	"	13
6	Gesto, Town Hall	South Essex	"	14
7	Harrow, Town Hall	South Essex	"	16
8	Malden, Town Hall	South Essex	"	17
9	Amherstburg, Town Hall	South Essex	"	18
10	Bell River, Town Hall	North Essex	"	19
11	St. Joachim, Town Hall	North Essex	"	20
12	Comber, Town Hall	North Essex	"	21

Division 9.

Gavin Barbour, Crosshill, Feb. 9 to 25.
J. N. Paget, Canboro, Feb. 26 to Mar. 5.
G. Peart, Burlington, Feb. 26 to Mar. 5.
Mrs. L. M. Parsons, Laroque, Feb. 9 to Mar. 5.

1	McNaught's School	South Brant	Feb.	9
2	Falkland, Holbert's Hall	South Brant	"	10
3	Cathcart, Foresters' Hall	South Brant	"	11
4	New Durham, Con. Church basement	South Brant	"	12
5	Burtch, School House	South Brant	"	13
6	E. Oakland, School House	South Brant	"	14
7	Kohler, School House	Haldimand	"	16
8	South Cayuga, School House	Haldimand	"	17
9	Walsh, Town Hall	South Norfolk	"	18
10	Carholm, Bowyer's Hall	South Norfolk	"	19
11	Fairgrounds, Town Hall	South Norfolk	"	20
12	Guysboro, Orange Hall	North Norfolk	"	21
13	Tyrell, Hall	North Norfolk	"	23
14	Windham Centre, Town Hall	North Norfolk	"	24
15	Kelvin, Hall	North Norfolk	"	25
16	Burgessville, Oddfellows' Hall	South Oxford	"	26
17	Currie, A.O.U.W. Hall	South Oxford	"	27
18	Beachville, Town Hall	South Oxford	"	28
19	Ingersoll	South Oxford	Mar.	2
20	Springford	South Oxford	"	3
21	Folden's Hall	South Oxford	"	4

DIVISION 10.

Henry Grose, Lefroy, Feb. 2 to 19.
A. Harkness, Vineland, Feb. 7 to 14; Feb. 20 to Mar. 5.
L. Caesar, Guelph, Feb. 17 to 19.
Wm. Scarf, Durham, Feb. 20 to Mar. 5.
Miss J. C. Smith, Powassan, Feb. 7 to Mar. 5.
Mrs. F. W. Watts, Feb. 2 to 6.

1	Millgrove, Town Hall	North Wentworth	Feb.	2
2	Carlisle, Orange Hall	North Wentworth	"	3
3	Westover, Oddfellows' Hall	North Wentworth	"	4
4	Kirkwall, School House	North Wentworth	"	5
5	Sheffield, Township Hall	North Wentworth	"	6
6	Jerseyville, Lee's Hall	South Wentworth	"	7
7	Carluke, School House	South Wentworth	"	9
8	Glanford, Town Hall	South Wentworth	"	10
9	Hannon, Liddy's Hall	South Wentworth	"	11
10	Binbrook, Public Hall	South Wentworth	"	12
11	Tapleytown, Public Hall	South Wentworth	"	13
12	Winona, Institute Hall	South Wentworth	"	14
13	Beamsville, Town Hall	Lincoln	"	16
14	Jordan Station, Frank's Hall	Lincoln	"	17
15	Gratham, Orange Hall	Lincoln	"	18
16	Virgil, Public Hall	Lincoln	"	19
17	South End, School House	Welland	"	20
18	Niagara Falls South, Township Hall	Welland	"	21
19	Crowland, Township Hall	Welland	"	23
20	Willoughby, Township Hall	Welland	"	24
21	Bowen Road, School House	Welland	"	25
22	Ridgeway	Welland	"	26
23	Sherkstone, School House	Welland	"	27
24	Humberstone, Township Hall	Welland	"	28
25	Marshville, Town Hall	Monck	Mar.	2
26	Attercliffe Station, Lout's Hall	Monck	"	3
27	Wellandport, Misener's Hall	Monck	"	4
28	Smithville, Brant's Hall	Monck	"	5

DIVISION 10A.

W. C. Shearer, Bright, Feb. 10 to 19.
Miss S. Campbell, Brampton, Feb. 10 to 13.

1	Heidelberg	North Waterloo	Feb.	10
2	Hawkesville	North Waterloo	"	11
3	Conestogo	North Waterloo	"	12

4 Centreville	North Waterloo	Feb.	13
5 Petersburg	South Waterloo	"	16
6 New Hamburg	South Waterloo	"	17
7 Haysville	South Waterloo	"	18
8 Manheim	South Waterloo	"	19

Division 11.

J. W. Widdifield, Uxbridge, Jan. 7 to 17.
Mrs. M. N. Norman, Toronto, Jan. 7 to 17.

1 Strathnairn, School	North Grey	Jan.	7
2 Bognor, Hall	North Grey	"	8
3 Kilsyth, Township Hall	North Grey	"	9
4 Shallow Lake, Hall	North Grey	"	10
5 Kemble, School	North Grey (aft.)	"	12
6 Brown's School	North Grey (evg.)	"	12
7 Owen Sound, Council Chamber	North Grey	"	13
8 Annan, Hall	North Grey (aft.)	"	14
9 Leigh, Hall	North Grey (evg.)	"	14
10 Honeywood, Workmens' Hall	Dufferin	"	15
11 Perm, Orange Hall	Dufferin	"	16
12 Rosomont	Dufferin	"	17

Division 12.

W. C. Shearer, Bright, Jan. 7 to Feb. 5.
Mrs. E. B. McTurk, Lucan, Jan. 7 to 21; Jan. 29 to Feb. 5.
Mrs. F. W. Watts, Toronto, Jan. 24 to 28.
Miss E. E. Smillie, Toronto, Jan. 22 and 23.

1 Stroud, Orange Hall	South Simcoe	Jan.	7
2 Ivy, Orange Hall	South Simcoe	"	8
3 Cookstown, Town Hall	South Simcoe	"	9
4 Thompsonville, Orange Hall	South Simcoe	"	10
5 Newton Robinson, Orange Hall	South Simcoe	"	12
6 Coulson's Hill, Orange Hall	South Simcoe	"	13
7 Nobleton, Music Hall	North York	"	14
8 Schomberg, Market Hall	North York	"	15
9 Aurora, Town Hall	North York	"	16
10 Queensville, Presbyterian Hall	North York	"	17
11 Belhaven, Town Hall	North York	"	19
12 Pine Orchard, Temperance Hall	North York	"	20
13 Vandorf, Town Hall	North York	"	21
14 Malton	Peel	"	22
15 Cooksville	Peel	"	23
16 Huttonville	Peel	"	24
17 Cheltenham	Peel	"	26
18 Belfountain	Peel	"	27
19 Caledon	Peel	"	28
20 Alma, Hall	West Wellington	"	29
21 Moorefield, Township Hall	West Wellington	"	30
22 Palmerston, Town Hall	West Wellington	"	31
23 Conn, Orange Hall	East Wellington (aft.)	Feb.	2
Conn, School House	East Wellington (evg.)	"	2
24 Kenilworth, Township Hall	East Wellington	"	3
25 Arthur, Town Hall	East Wellington	"	4
26 Damascus, Township Hall	East Wellington	"	5

Division 13.

1 Jessopville	Dufferin (aft.)	Jan.	7
2 Keldon	Dufferin (evg.)	"	7
3 Riverview	Dufferin (aft.)	"	8
4 Corbetton	Dufferin (evg.)	"	8
5 Violet Hill, Orange Hall	Dufferin	"	9
6 Granger	Dufferin (aft.)	"	12
7 Mono Centre	Dufferin (evg.)	"	12
8 Camilla	Dufferin (aft.)	"	13
9 Whittington	Dufferin (evg.)	"	13

10	Bowling Green	Dufferin	Jan. 14
11	Kleinburg, Temperance Hall	West York	" 15
12	Thistleton, Township Hall	West York	" 16
13	Weston, Town Hall	West York	" 19
14	Clairville, Temperance Hall	West York	" 20
15	Richview, Methodist Church	West York	" 21
16	Elia, Foresters' Hall	West York	" 22
17	Edgley, Temperance Hall	West York	" 23
18	Richmond Hill	East York	" 26
19	Thornhill	East York	" 27
20	Willowdale	East York	" 28
21	Wexford	East York	" 29
22	Malvern	East York	" 30
23	Highland Creek	East York	Feb. 2
24	**Unionville**	East York	" 3

Division 14.

J. W. Clark, Cainsville, Jan. 6 to Feb. 5.
S. M. Pearce, Iona, Jan. 21 to 26.
Mrs. W. J. Hunter, Pleasant, Jan. 6 to Feb. 5.

1	Bethany, Town Hall	East Durham	Jan. 6
2	Bailieboro, S. of E. Hall	East Durham (aft.)	" 7
3	Millbrook, Town Hall	East Durham (evg.)	" 7
4	Elizabethville, Orange Hall	East Durham (aft.)	" 8
5	Garden Hill	East Durham (evg.)	" 8
6	Canton, S. S. Hall	East Durham	" 9
7	Morrish, S. S. Hall	East Durham	" 12
8	Ebenezer, S. S. Room	West Durham	" 13
9	Solina, S. O. T. Hall	West Durham	" 14
10	Tyrone, S. O. T. Hall	West Durham	" 15
11	Valentia, Foresters' Hall	West Victoria	" 16
12	Lindsay, Town Hall	West Victoria	" 19
13	Cameron, Orange Hall	East Victoria	" 20
14	Burnt River	East Victoria	" 21
15	Dunsford, Old Church	East Victoria	" 22
16	Omemee	East Victoria	" 23
17	Gamebridge, S. O. S. Hall	North Ontario	" 26
18	Brechin, **School House**	North Ontario	" 27
19	O'Connell's School House	North Ontario	" 28
20	Udney, Orange Hall	North Ontario	" 29
21	Beaverton, Town Hall	North Ontario	" 30
22	Sunderland, Town Hall	North Ontario	" 31
23	Zephyr, Public Hall	North Ontario	Feb. 2
24	Sandford, I. O. F. Hall	North Ontario	" 3
25	Goodwood, Town Hall	North Ontario	" 4
26	Altona, School House	North Ontario	" 5

Division 15.

A. M. Campbell, Maxville, Jan. 7 to 30.
J. O. Duke, Ruthven, Jan. 26 to 30.
Mrs. W. Dawson, Parkhill, Jan. 7 to 30.

1	Norwood	East Peterboro	Jan. 7
2	Tweed, Town Hall	East Hastings	" 8
3	Plainfield, Orange Hall	East Hastings	" 9
4	Clazies, School House	East Hastings	" 10
5	Foxboro, School House	East Hastings	" 12
6	Turner's School House	West Hastings	" 13
7	River Valley, School House	West Hastings	" 14
8	Hoyles' School House	West Hastings	" 15
9	Menie	East Northumberland	" 16
10	Wooler, Town Hall	East Northumberland	" 17
11	Cadrington	East Northumberland	" 19
12	Dundonald, Church Hall	East Northumberland	" 20
13	Castleton, Town Hall	East Northumberland	" 21
14	Centreton, Methodist S. S. Hall	West Northumberland	" 22
15	Baltimore, Chapman's Hall	West Northumberland	" 23

16	Whitby	South Ontario	Jan.	1
17	Brooklin, Masonic Hall	South Ontario	"	27
18	Kinsale	South Ontario	"	28
19	Brougham, Town Hall	South Ontario	"	29
20	Pickering	South Ontario	"	30

DIVISION 16.

Henry Grose, Lefroy, Jan. 7 to 28.
Arthur Christie, Melvin, Jan. 7 to 14.
P. C. Dempsey, Trenton, Jan. 21 to 26.

1	Stirling, Town Hall	North Hastings	Jan.	7
2	Springbrook, Foresters Hall	North Hastings	"	8
3	Marmora, Orange Hall	North Hastings	"	9
4	Eldorado, Town Hall	North Hastings	"	10
5	Queensboro, Orange Hall	North Hastings	"	12
6	Madoc, Town Hall	North Hastings	"	13
7	Moira, Town Hall	North Hastings	"	14
8	Arden, Town Hall	Centre Frontenac	"	15
9	Picadilly, Town Hall	Centre Frontenac	"	16
10	Elginburgh, Elginburgh Hall	Frontenac	"	19
11	Barriefield	Frontenac	"	20
12	Sillsville	Lennox	"	21
13	Bath	Lennox	"	22
14	Wilton	Lennox	"	23
15	Switzerville, School House	Lennox	"	24
16	Selby	Lennox	"	26
17	Athens, Town Hall	South Leeds	"	27
18	Delta, Town Hall	South Leeds	"	28

DIVISION 17.

Wm. Scarf, Durham, Jan. 7 to Feb. 4.
A. Christie, Winchester, Jan. 13 to 28.
Mrs. M. N. Norman, Toronto, Jan. 28 to Feb. 4.

1	Iroquois	Dundas	Jan.	7
2	Morrisburg	Dundas	"	8
3	Osnabruck, Township Hall	Dundas	"	9
4	**Cornwall Centre, Township Hall**	**Stormont**	"	10
5	Northfield Station	Stormont	"	12
6	Lancaster, McRae Hall	Glengarry	"	13
7	McCrimmon, Public Hall	Glengarry	"	14
8	Dalkeith, Public Hall	Glengarry	"	15
9	Alfred Centre	Prescott	"	27
10	Pendleton	Prescott	"	28
11	Leonard	Russell	"	29
12	**Cumberland**	**Russell**	"	30
13	Brouseville, School House	South Grenville	Feb.	2
14	Maynard, Church Basement	South Grenville	"	3
15	Roebuck, Orange Hall	South Grenville	"	4

DIVISION 18.

Jas. F. Ferguson, Dalmeny, Jan. 7 to 30.

1	Glasgow St., Town Hall	South Renfrew	Jan.	7
2	Burnstown, Temperance Hall	South Renfrew	"	8
3	Shamrock, School House	South Renfrew	"	9
4	Grattan, School House	South Renfrew	"	12
5	Northcote, Temperance Hall	South Renfrew	"	13
6	Queen's Line School House	North Renfrew	"	14
7	Westmeath, Public Hall	North Renfrew	"	15
8	Alice, Presbyterian Church	North Renfrew	"	17
9	Richardson, School House	South Lanark	"	26
10	McLean's School House	South Lanark	"	27
11	Balderson, School House	South Lanark	"	28
12	Poland, Private Hall	North Lanark	"	29
13	Watson's Cors., Temperance Hall	North Lanark	"	30

SPEAKERS AND SUBJECTS

BARBOUR, GAVIN, Crosshill.—Mr. Barbour is representative of a large number of farmers who have succeeded, by hard labour and a thorough knowledge of the lines of farming followed, in increasing the productivity of the farm and making many improvements, while at the same time paying off obligations.

Mr. Barbour has been an acceptable Institute worker for several years. He is particularly well qualified to give practical demonstrations in the judging of beef cattle. The young farmers especially should benefit from Mr. Barbour's addresses and demonstrations.

Subjects:—

"Soil Cultivation and Control of Soil Moisture."
"Beef Cattle."
"Draught Horses and How to Raise Them."
"Corn and the Silo."
"How to Grow Crops in a Dry Season."

Evening: "Farmers and Their Sons."
"Present Day Needs of Ontario Agriculture."

BOWES, L. E., Strathnairn.—Mr. Bowes has been active in the agriculture of his own district, taking a prominent part in the local Farmer's Club and Literary Society. He is a breeder of Clydesdale horses and Shorthorn cattle. The feeding of beef cattle is one of the leading features in his farming operations. Corn and alfalfa are grown in large quantities on his farm.

Subjects:—

"The Draught Horse on the Farm."
"Alfalfa and Corn."
"Cultivation and Rotation of Crops."
"The Beef Animal from Birth to Block."

Evening: "The Farmers' Club as a Means of Education."

CAMPBELL, A. M., Maxville.—Mr. Campbell is a successful dairyman and general farmer. His practical grasp of the subjects announced, and the clear and forceful manner in which he imparts information, render him a valuable man in Institute work.

Subjects:—

"Poultry on the Farm."
"The Breeding of Dairy Cattle."
"Care and Feeding of the Dairy Cow."
"Cultivation of Corn and the Silo."
"Farm Management."

Evening: "The Bright Side of Farm Life."

CARPENTER, J. F., Fruitland.—Mr. Carpenter is a graduate of the Ontario Agricultural College, and one of the most practical fruit growers of the Niagara District. He has spent three years as a Fruit Instructor in British Columbia, where he gave eminent satisfaction. He has also travelled extensively throughout the fruit-growing districts of the States of Washington, Oregon, and California. His wide acquaintance with the fruit-growing areas and conditions of the West, and practical knowledge of conditions in this Province, fit him particularly well to give advice to Ontario fruit-growers.

Subjects:—

"Planting and Care of the Young Orchard."
"Soil Cultivation and Fertility."
"Pruning of Orchards."
"Orchard Pests and their Control."
"Sprays and Spraying."
"Cover Crops."
"Culture of Small Fruits."

Christie, Arthur, R. R. No. 2, Winchester.—Mr. Christie is an associate of the Ontario Agricultural College, having taken his Diploma in 1900, since which time he has been actively engaged in farming. He has taken a deep interest in Continuation School work, Agricultural Societies and other local activities, including Farmers' Institutes in the County of Dundas.

Subjects:—

"Crops for the Dairy Farms."
"Building Up and Maintaining Soil Fertility."
"Soil Cultivation."
"Corn and Root Crops."
"Care and Application of Farmyard Manure."
"The Dairy Cow."
"Bacon Production."
"Farm Poultry."
"The Apple Orchard."
"Labor Problem"
"Business Methods applied to Farming."

Clark, J. W., Cainsville.—Mr. Clark is one of the largest poultry breeders in Ontario, and has won many prizes for dressed poultry at the Winter Fair, Guelph, including the sweepstakes. He is a strong advocate of utility breeds for the farmer. For two years Mr. Clark was poultry instructor in an American State Agricultural College. He has had several years' experience in growing alfalfa, and has also a large apiary. Mr. Clark has given considerable attention to the production of good seed and methods of identification and eradication of weeds. After eight years' work on an apple orchard, of five acres, he increased the yield from 100 barrels of inferior fruit to 878 barrels of a choice product. In 1913 his apiary netted a three-and-a-half-ton yield. Mr. Clark will explain his methods to the Institutes.

Subjects:—

"Growing Alfalfa."
"Commercial Apple Growing—How to Make It Pay."
"Growing Small Fruits—Strawberries, Raspberries, Currants, etc."
"Importance of Seed Selection."
"Commercial Fertilizers—Do They Pay?"

Evening: "Poultry: From A to Z."
"Care of an Apiary."

Dempsey, W. H., Trenton, Ont.—Mr. Dempsey is one of the most prominent fruit growers in the Province. For ten years he had charge of the Fruit Experiment Station at Trenton, and has served as a Director of the Ontario Fruit Growers' Association.

Subjects:—

"Nursery Stock and the Care of the Young Orchard."
"Spraying."
"Packing and Marketing of Fruit."

Dempsey, P. C., Trenton.—Mr. Dempsey is a graduate of the Ontario Agricultural College, with a wide experience in fruit-growing on one of the best fruit-growing farms in the Trenton District. He has had experience in District Representative work and in regular Institute work.

Subjects:—

"Selection and Planting Nursery Stock."
"Pruning—Its Use and Abuse."
"Fertilizer and Soil Treatment."
"Picking, Grading and Packing of Fruit."
"Control of Insect and Fungus Diseases."
"Co-operation in Buying and Selling of Fruit."
"Spraying that Pays."

DUKE, J. O., Ruthven.—Mr. Duke is a successful farmer in Essex County, and has given special attention to corn breeding and seed selection. His addresses, being founded on practical experience, are of much value to those who hear them.

Subjects:—

"Maintaining the Fertility of the Soil."
"Corn Growing."
"Improvement of Seed."
"The Peach Industry."
"Apple Culture in Western Ontario."
"Tile Drainage."

Evening: "Education for Farmers' Boys and Girls."
"Home Life on the Farm."
"Business End of Farming."

DYER, WM. D., B.S.A., Columbus.—Mr. Dyer is one of the successful farmers of South Ontario. His course at the College has been put to good use in making the "old farm pay." He has an up-to-date equipment, and is following common-sense, advanced methods in all his work.

Subjects:—

"Rotation of Crops."
"Farm Buildings."
"General Care of Farm Stock."
"The Production of Milk."
"The Bacon Hog."

DYMENT, E., Dundas, Ont.—Mr. Dyment has had some twenty years' experience in farming in one of the best sections of the Province and latterly has specialized in pure bred sheep and swine. Mr. Dyment has devoted most of his time in recent years to purchasing horses. His wide experience in a business way and success on the farm will make him of great value in Institute work.

Subjects:—

"Sheep for the Ontario Farmer"
"The Production of Bacon Hogs."
"Judging and Marketing of Horses."
"Feeding the Soil."

Evening: "Back to the Land."

DENYES, H. K., Halloway.—Mr. Denyes is a practical farmer of long experience. The breeding of heavy horses has been an important features of his farming operations and he has judged at a great many fairs during the past twenty years.

Subjects:—

"Alfalfa Growing."
"Rearing and Feeding the Dairy Cow."
"Raising Horses for Profit."
"Under-draining and Better Tilling of the Soil."
"The Farm, Home and Nation."

ELLIOTT, ANDREW, Galt.—Since his retirement from active work on the farm, Mr. Elliott has devoted a great deal of time to Institute and other agricultural educational work in many States of the Union and from one end of the Dominion to the other. He is prepared to attend a few Institute meetings in Ontario this winter, and will give instruction upon the following features, to which he has given special attention during recent years. Mr. Elliott has been engaged as Director of farms under the control of the Dominion Conservation Commission in the three Maritime Provinces.

Subjects:—

"How Clover Enriches the Soil."
"Economical Stock Feeding."
"Alfalfa."
"Rotation of Crops."
"Preparing the Seed Bed."

Evening: "Agricultural Problems of America."
"Soil and Seed Heritage."

Fairbairn, J. B., Beamsville.—As proprietor of the Summerhill Fruit Farm, Mr. Fairbairn has had a very successful experience in fruit growing. He was associated with College work at the Ontario Agricultural College for a number of years and has acted as fruit inspector in his district this year. Mr. Fairbairn is prepared to give valuable advice on controlling fruit diseases and on general orchard work.

Subjects:—

"Peach Diseases."
"Identification and Treatment of San Jose Scale."
"Potato Growing."

Farmer, G. H., Steelton.—Mr. Farmer has lived in Algoma for thirty-one years, and for the past twenty years has been identified with nearly every progressive agricultural movement in his section, especially Institutes and Farmers' Clubs, pure seed, a better class of stock, and growing alfalfa. His experience and observations will be found of special value to the farmers who work under similar conditions, and especially to those who are beginners.

Subjects:—

"Weeds and How to Eradicate Them."
"Farm Drainage."
"Seed Selection."
"Growing Alfalfa in New Ontario."
"Selection of a Dairy Cow."

Evening: "Mistakes in Farming."

Fisher, W. F. W., Burlington.—Mr. Fisher is a large fruit grower, strawberries and pears being his special lines. He has one of the best dwarf pear orchards in Ontario, as well as a large orchard of standard pears. Besides this he has a mixed orchard of pears and apples. Mr. Fisher is secretary and manager of the Burlington Fruit Growers' Association, one of the oldest co-operative associations in the Province. Mr. Fisher is much in demand as a speaker at the special Fruit Institutes, and is prepared to discuss all phases of practical fruit growing.

Subjects:—

"Cultivation of the Orchard."
"Pruning and Grafting."
"Spraying."

Ferguson, Jas. F., Dalmeny.—Since his two years' course at the Ontario Agricultural College, Guelph, Mr. Ferguson has followed mixed farming in Carleton County, devoting special attention to the improvement of his dairy herd by systematic testing. He is a member of the Canadian Seed Growers' Association.

Subjects:—

"The Benefits of Cow Testing."
"Essentials in the Care of Live Stock."
"Economical Feeding of Live Stock."
"Crop Rotation."
"Bacon Production."

FORTIER, G. W., Clarence Creek.—Mr. Fortier is the proprietor of an exceedingly up-to-date poultry plant and has been making this branch of farming pay handsome dividends. He is deeply interested in Institute work, and as he speaks both French and English he should be a valuable acquisition to the Institute staff.

Subjects:—

"The Dairy Herd."
"Poultry Raising."

GARDHOUSE, JOHN, Weston.—Mr. Gardhouse is a well-known breeder of Shire Horses, Shorthorn Cattle and Long-wool Sheep. All of the prize lists of our large fairs testify to his ability to raise high-class stock. He raises most of the food for his pure-bred stock, and is prepared to tell how he cultivates his land, plants his crop, and mixes his foods so as to secure the best results from his live stock. Mr. Gardhouse will be found of special value to those Institutes where the officers wish for practical work on heavy horses, beef cattle, and sheep.

Subjects:—

"Horse Breeding for Profit."
"Care and Management of Horses."
"How to Select and Feed Beef Cattle."
"Care and Management of Sheep."
"Raising Feed for Live Stock."

Evening: "How to Improve Present Farm Conditions."
"How to Interest the Young People in the Farm."

GARDHOUSE, WM. J., Thistletown, Ont.—Mr. Gardhouse is the son of John Gardhouse, so well and favorably known to live stockmen throughout the Dominion, and, although a young man, has already had considerable experience in the judging of live stock at fall fairs. He is a most successful farmer and an excellent judge of heavy horses and beef cattle. He will devote more or less time during the coming winter to Short Course work as well as regular Institute work.

Subjects:—

"Conformation and Judging of Heavy Horses, Beef Cattle and Sheep."
"Cheap Foods for Farm Stock."
"Type in Live Stock."

GROH, ANSON, Preston.—Mr. Groh has demonstrated how a very ordinary farm can be made a money-maker to its owner at the same time that the fertility is being increased and improvements paid for. Mr. Groh has given close attention to farm forestry, a subject of importance to Ontario farmers. He has ten years' continuous daily milk records of his herd. His experience in building silos, stables, walls and tanks with cement, and in the use of gasoline engines renders his instruction on these lines of especial value to farmers. He has been one of the leaders in the organization and management of a local telephone company.

Subjects:—

"Farm Forestry."
"Lucerne and other Clovers."
"Soil Problems."
"Corn and the Silo."
"Fertility of the Soil and Conservation of Moisture."
"Systematic Rotation of Farm Crops."
"Care and Management of Dairy Cattle and Hogs."

Evening: "The Stairway to Success."
"Three Generations in Waterloo County."

GROSE, HENRY, Lefroy.—Mr. Grose is the owner of a first-class farm in Simcoe County, and has been eminently successful in general farming. He has the happy faculty of presenting hard facts in a pleasing manner, and his address to boys on the farm is very instructive and uplifting. Mr. Grose has attended Institute meetings for

six seasons with acceptance, and his services should be of special value in those sections where mixed farming is followed.

Subjects:—

"How to Increase and Maintain the Fertility of the Soil."
"Selection of Seed."
"Home Dairy Work."
"The Growing of Clover."

Evening: "Benefits of Institute Work."
"The Canadian Boy and Girl."

GURNEY, C. W., Paris.—Mr. Gurney is one of the progressive farmers of Brant County, and his success in general agriculture, with special emphasis on wheat and apple production, enables him to be of service to the great majority of Ontario farmers. The great bulk of tillers of the soil can be classed as "general farmers." They will get much of interest and value from Mr. Gurney, who has already rendered most acceptable service in local Institutes.

Subjects:—

"Selecting and Breeding of Horses."
"Educating the Colt."
"Care and Management of Sheep."
"Care of Apple Orchard."
"Marketing of Fruits through Central Selling Agency."

HALLMAN, A. C., Breslau.—Mr. Hallman is one of our most experienced and successful Institute lecturers, and Live Stock demonstrators. He is a successful farmer and stock breeder in Waterloo County, being well known as a breeder of high-class Holstein-Friesian cattle and Tamworth swine, and a winner of many prizes at our leading exhibitions. He has gained a national reputation for judging dairy cattle and swine, having judged at nearly all the leading exhibitions in Canada from the Atlantic to the Pacific, and his services are in constant demand.

Subjects:—

"How to improve our Live Stock, their Care and Feeding."
"Successful Management of Swine and the Export Bacon Trade."
"Cultivation of Corn and the Silo."
"Soil Fertility, Cultivation, and Conservation of Soil Moisture."
"Modern Methods in Haymaking."
"Hints on Remodelling Stables, and the Value of Cement."

Evening: "Food Problems," and "High Cost of Living."

HANKINSON, L. D., Aylmer, Ont.—Mr. Hankinson has made valuable application of his course at Guelph in the practical operations of his farm. He has specialized in the growing of corn for seed, and will have much information of value along this line, as well as general farm topics.

Subjects:—

"The Production of Corn for Fodder and Seed."
"Keeping up the Fertility of the Farm."
"Alfalfa Growing."
"Modern Improvements on the Farm and in the Home."

HARKNESS, R. E., Irena.—Mr. Harkness has specialized in Fruit-Growing and Bee-Keeping; two branches which can be made most profitable in practically all sections of the Province. Mr. Harkness has had some experience in local Institute work and there is no doubt but that his services will be appreciated in the larger field.

Subjects:—

"Orchard-planting, Pruning, Cultivating."
"Orchard-spraying, Thinning, Packing, Marketing."
"Bee-Keeping."
"The Farmer's Garden."
"Eradication of Farm Weeds."

HARKNESS, A. D., Vineland.—Mr. Harkness has been director of the Fruit Experimental Station at Jordan Harbor for the past two years. Previous to taking charge of the Experimental Station, Mr. Harkness was a prominent dairyman and fruit grower in the eastern section of Ontario, where fruit growing is not one of the leading agricultural pursuits. Mr. Harkness will be prepared to talk upon dairy topics.

Subjects:—

"Preparation for Planting and Care of the New Orchard."
"Cover Crops."
"Insects and Fungi Injurious to Fruit and Means of Controlling Them."
"Growing Small Fruits and Early Tomatoes."
"Potato Production."
"The Farmer's Garden."

JAMES D., Thornhill.—Mr. James took possession of the farm where he commenced farming some forty-three years ago, and has succeeded in converting it from a bed of weeds and rubbish into a clean, systematic and well-equipped farm. He is a believer in mixed farming, as will be seen from his list of subjects. Some thirty-five years ago Mr. James and his neighbors formed an association to discuss agriculture and held weekly meetings throughout the winter. At that time he began the collection of a library, and to-day has one of the best-equipped agricultural libraries to be found among practical farmers.

Subjects:—

"The Weed Problem."
"The Dairy Herd; Feed and Care."
"Growing, Curing and Feeding Alfalfa."
"Poultry on the Farm.
"Feeding of Farm Animals."
"Seed Improvement."
"Ensilage."
"Waste on the Farm."
"Bird Life as Viewed from the Farm."

JONES, HAROLD, Maitland.—Mr. Jones is one of the pioneers who redeemed the reputation of the St. Lawrence Valley as a fruit district. He has made the "McIntosh Red" apple world-famous, and he has demonstrated the advantages of clean cultivation, proper fertilization and persistent spraying. The heavy yield which his crops have made when other farmers have met failure amply bears out the value of his principles.

Subjects:—

"Cultivation and Care of Orchards."
"Injurious and Beneficial Insects."
"Fungi-Spraying Mixtures and their Application."
"Successful Potato Growing and Treatment for Blight."

Evening: "Our Bird Friends."

JOHNSTON, F. M., Boston.—Mr. Johnston is a well educated young farmer who has been successful in the production of pure bred Holstein cattle. The growing of alfalfa and corn has been emphasized on his up-to-date farm. Mr. Johnston has been a leader in the local Farmers' Club and we have every confidence that his services will be much appreciated in the regular Institute work.

Subjects:—

"Dairying for Dollars."
"Seed Improvement."
"Alfalfa Growing."
"Cultivation and Rotation of Crops."
"Farmers' Clubs."

JOHNSON, D., Forest.—Mr. Johnson, President of the Ontario Fruit Growers' Association, has studied fruit-growing methods and marketing in California, Oregon, Washington and British Columbia, and visited most of the British and American markets. He is a capable and successful grower and shipper, and intensely interested in advancing the cause of the fruit industry in his own Province.

Subjects:—

"Care and Cultivation of Fruit."
"Insects and Fungi Affecting Fruit and Trees."
"The Spraying of Fruit."
"Marketing and Shipping of Fruit."
"Co-operation."
"Peach Growing in Western Ontario."

Evening: "Fruit Growing in California and Oregon."

KERR, W. J., Woodroffe.—Mr. Kerr is a successful small fruit farmer, with considerable experience in the growing of ornamental and decorative trees. He is First Vice-President of Ontario Vegetable Growers' Association, and for the past six years Secretary-Treasurer of the Ottawa Vegetable Growers' Association. Mr. Kerr is able to give much valuable information as to varieties and methods in fruit and vegetable growing.

Subjects:—

"How to Make the Farm Orchard Pay."
"Commercial Fruit Growing."
"Truck Gardening for City Market."
"The Kitchen Garden, Varieties and Methods."
"Our Insect Friends and Foes."

Evening: "Beautifying the Home Grounds."
"Interesting the Young Folk in the Farm and Home."

LEWIS, R. H., Box 212, Hamilton.—Mr. Lewis has followed vegetable and fruit growing in the vicinity of Hamilton for twenty-five years, and has had considerable experience in Institute work in the fruit sections of the Province. He has been employed by the Agricultural Department as an Inspector in the Fruit Branch.

Subjects:—

"Pruning, Cultivation and Spraying of Small Fruits."
"Vegetable Growing for the Home."
"Cultivation, Drainage and Soil Moisture."
"General Care of the Orchard."

Evening: "The Care of Farm Machinery."

LEWIS, F. M., Burford.—Mr. Lewis has had much to do, as secretary, with the success of the South Brant Farmers' Institute. He has followed farming all his life, and is the owner of a good orchard and pays special attention to the production of potatoes. His success as a feeder of steers and pigs for market has been marked.

Subjects:—

"Clovers, the Key to Successful Farming."
"Green and Barnyard Manure, Their Care and Application."
"Corn and the Silo."
"Seed Selection."
"Potato Growing."
"Apple Growing."

Evening: "Waste Places."

MALLORY, CLARENCE, Bloomfield.—Mr. Mallory is a dairy farmer of considerable experience, who is emphasizing the growing of corn and tomatoes for canning factories. Dairying and the growing of these special crops supplement each other to good advantage.

Subjects:—

"Improvement of the Dairy Herd."
"The Rearing of the Calf."
"Fodder Crops for the Dairy Farmer."
"The Labor Problem."
"Canning Factory Crops."

MALLORY, FRED. R., B.S.A., Frankford.—Since graduating from the O.A.C., Guelph, Mr. Mallory has devoted his attention to practical work on the farm. He keeps a number of pure-bred Holstein cattle, and produces milk in large quantities. The success attending the application of scientific principles to the practical work of the farm has been demonstrated by Mr. Mallory, and he has much of interest and value for the tiller of the soil. Mr. Mallory can attend only a limited number of meetings this year.

Subjects:—

"Dairy Farming."
"Silos and Silage."
"Clover."
"The Question of Plowing Deep or Shallow."
"The Farmer's Garden."
"Farm Surroundings."

Evening: "Can Farm Labor be Systematized?"
"Are we our Neighbors' Keeper?"

MCCALLUM, J. M., B.S.A., Shakespeare.—Mr. McCallum is a graduate of the O.A.C., and has since his graduation been putting into practice, with good effect, the lessons learned during his course. Mr. McCallum has been a most acceptable judge at the Fall Fairs, and has had experience in Institute work. He is a forceful and convincing speaker.

Subjects:—

"Seed Selection as a Basis of Crop Improvement."
"The Corn Crop."
"Alfalfa a Catch Crop."
"The Draft Horse."

Evening: "Is Farm Life Attractive?"
"The Mystery of Growth in Plant Life."

MCCURDY, R. H., Vienna.—Mr. McCurdy is one of the up-to-date farmers of Elgin County. He has always taken a great pride in the beautifying of his own home surroundings and a deep interest in everything pertaining to the improvement of his crops and herds. Mr. McCurdy has practised general farming with fruit growing as a specialty, and is prepared to give some very interesting talks as indicated below.

Subjects:—

"The Legumes, their Growth and Uses."
"Farm Drainage."
"Orchard Management."
"Weeds and their Treatment"
"The Strawberry as a Money Crop."

Evening: "Gleanings from the Field."
"Home Sanitation."

McEwen, C. F., Byron, Ont.—Mr. McEwen is an Associate of the Ontario Agricultural College and has been associated with his father in successful farming operations in which Southdown sheep and beef cattle have been a feature.

Subjects:—

"Breeding of Beef Cattle."
"Sheep-raising."
"Stable Feeding and Finishing Steers."
"The Building and Equipment of Stables"

Moorehouse, R. L., Cairo.—Mr. Moorehouse is a successful farmer, who has had the advantages of college training. He has already done acceptable work in the Institutes and has assisted at special Judging Classes. He will be found a thorough master of the topics for which he is announced. Mr. Moorehouse will be prepared to give instruction in the judging of beef cattle and sheep.

Subjects:—

"The Breeding and Feeding of Beef Cattle."
"Alfalfa, the Scientific and Practical."
"The Control of Soil Moisture."
"Tile Drainage."
"Sheep Farming."
Evening: "The Why of This and That."
"The Business End of Farming."

Morton, I. N., Lefroy.—Mr. Morton is a successful practical farmer, who has taken a deep and active interest in the work of the Institute and other local societies, and is now prepared to assist the department in a larger way.

Subjects:—

"Increasing the Fertility of the Soil."
"Root Crop and Its Place on the Farm."
"Canada's Men and Women of To-morrow."
"The Corn Crop."

Murphy, Robt., Alliston.—Mr. Murphy is one of the most successful and best know among the farmers and stockmen of Simcoe County. He has also taken a leading par in the public affairs of his county working up to the Wardenship and has had considerable experience in Institute work.

Subjects:—

"Soil Problems."
"Soil Cultivation and Drainage."
"Alfalfa Growing."
"Seed Selection."
"Selection and Feeding of Beef Cattle."
"Dual Purpose Cattle."

Evening: "The Choice of Occupation."
"Some of the Needs of Ontario Agriculture."

PAGET, J. N., Canboro.—Mr. Paget is well known in dairy circles through his connection with the Dairymen's Association of Western Ontario. He has been either director or president for a number of years, and is now a member of the directorate. Mr. Paget is particularly well known in his own district for the aggressive and up-to-date methods he has adopted in conducting his dairy business. He is not only a thoroughly practical man, but is capable of presenting the results of his experience in a clear and forceful manner.

Subjects:—

"Care and Production of Milk."
"Profit and Loss in Dairying."
"Handling the Finished Product until it Reaches the Consumer."
"The Growth of Alfalfa and its Importance to Dairymen."

Evening: "The Relation which should exist between Producer, Proprietor and Maker."

PEARCE, S. M., Iona.—Mr. Pearce is an Associate of the Ontario Agricultural College and has been breeding high-class grades and Shorthorns since 1904. He was a member of the International Stock Judging Team while attending College.

Subjects:—

"Corn for Seed and Silo."
"Tile Drainage."
"Keeping Accounts on the Farm."
"Canadian Park and Forest Reserves."
"Alfalfa."

PEART, GRANT S., Burlington, Ont.—Mr. Peart, of Burlington, is a graduate of the Ontario Agriculture College, and has had the advantage of extensive practical experience upon one of the best Ontario farms, both before and subsequent to his course at the College.

Subjects:—

"Grass Seed Trade and Seed Control Act."
"The Apple Orchard."

Evening: "Leaks on the Farm."

PORTER, C. E., Appleby.—Mr. Porter is a very successful young farmer and a prominent breeder of pure bred stock. He has been a leading prize winner at the Canadian National in 1911 and 1912.

Subjects:—

"Types of Heavy Horses for Breeding Purposes."
"Care and Feeding of Brood Mares and Young Horses."
"Apple Growing, Reclaiming of Orchards, Spraying, Cultivation, etc."
"Alfalfa."

Evening: "Beautifying of Home and School Grounds."
"What is Worth While."

PERDUE, J. N., Massey P.O.—Mr. Perdue is a breeder of pure bred Shorthorns, with considerable experience in preparing fat cattle for the market. He has been active in the work of local agricultural organizations. Mr. Perdue is very optimistic as to the future of agriculture in Ontario and his addresses should be most instructive and inspiring, especially to young farmers.

Subjects:—

"The Beef Industry from A to Z."
"Building up Ontario Farms."
"Farmers' Clubs."

Rittenhouse, S. H., Jordan Harbor.—Mr. Rittenhouse is one of the successful fruit growers who has specialized in strawberries. He has made a study of drainage with a view to orchard improvement. He is prepared to give much valuable advice gleaned from his own experience.

Subjects:—

"Tomato Growing."
"Caring for the Apple Orchard."
"Corn Growing and the Silo."
"Strawberry Growing."
"The Commercial Peach Orchard."
"Tile Drainage."

Evening: "Making Farm Life Attractive."

Robertson, Geo. A., B.S.A., St. Catharines.—Mr. Robertson, after graduating from the O.A.C., spent some years with the most prominent fruit growers in the Grimsby section. He then took up land for himself near St. Catharines, and has been very successful in the growing of all kinds of fruits, especially sweet cherries. His efforts along poultry lines have met with equal success, and have led him to believe the combinations of fruit and poultry yields surer and more abundant returns than the fruit business alone.

Subjects:—

"Asparagus, Plums."
"Peaches, Cherries, Pears, Tomato Growing, etc."
"Spraying, Pruning, Cover Crops, Fertilizers."
"Underdraining."
"Poultry Incubation, Breeding, Housing, Feeding, Preparation for Showing, Co-operation in Marketing, etc." Demonstrations in comparison of conformation.

Ross, A. W., Blenheim, Ont.—Mr. Ross has followed mixed farming very profitably, emphasizing the production of pork and poultry. He also follows dairying and keeps a few sheep. His interests are not confined solely to his own farm. He has been active in organizing and installing a local telephone system, and has had experience as a judge at a number of exhibitions.

Subjects:—

"Farm Telephones, how to Build and Maintain Them."
"Hog Raising for Profit."
"Profits in Poultry."
"How to Improve Present Farm Conditions."
"The Best Means of Keeping Earth Roads in Good Repair."

Scarf, W., Box 79, Durham.—Mr. Scarf is one of the leading farmers of his district, and has for a number of years taken an active part in the work of agricultural societies and Farmers' Institutes.

Subjects:—

"Breeding and Feeding of Beef Cattle."
"Hog Raising."
"Improvement of Farm Crops."

Shaw, J. C., Norwich, Ont.—Mr. Shaw is a successful farmer in the County of Oxford, having removed from the County of Wentworth some few years ago. Since coming to South Oxford he has demonstrated that money can be made from a run-down dirty farm, at the same time that it is being put in first-class condition. Mr. Shaw's advice on this line of work, as well as upon general farm topics, should prove of interest and benefit to the districts which he may visit. Mr. Shaw has won medals for excellence in quality of farm products as well as for the appearance of his farm.

Subjects:—

"Improvement of Grain Crops through Seed Selection."
"A Profitable Experience with Tile Draining."
"Maintaining and Increasing Fertility on the Farm."
"Ontario's Possibilities."

SHEARER, W. C., Bright.—Dairying is the particular department of farming in which Mr. Shearer has been eminently successful. He has kept records of the feed consumed by the hogs produced, and will be able to give information of much value regarding the feeding of sweet pasteurized whey in conjunction with other foodstuffs. He is thoroughly practical, a good speaker, an Institute man of experience for some years past, and a most acceptable delegate. As will be seen from his subjects, Mr. Shearer is also prepared to discuss the bacon, seed and corn questions.

Subjects:—

"Rotation of Crops and Selection of Seed."
"Breeding and Feeding the Bacon Hog."
"Breeding Dairy Cows and Feeding for Milk."
"Tile Underdraining."
Evening: "Interesting the boys in the Farm."

SILCOX, F. H., Iona.—Mr. Silcox is a farmer's son and has managed a 100-acre farm of his own for the last thirteen years. He is a graduate of the Ontario Agricultural College, and an ex-President of the West Elgin Farmers' Institute. He has had considerable experience in growing Alfalfa, improving worn-out, weedy land, and in breeding and marketing Light Horses, Leicester Sheep and Jersey Cattle.

Subjects:—

"Alfalfa Growing."
"Intensive Farming on 100 Acres."
"A Few Phases of the Light Horse Industry."
"Farming as a Business Proposition."
Demonstration in Dairy Cattle, and Light Horses.

SMITH, A. R. G., New Hamburg.—Mr. Smith is one of the leading farmers in one of the best agricultural sections of the Province. He has taken part in club work, improvement of schools, and other activities intended for the betterment of the farmer's condition. Mr. Smith is a member of the County Board of Agriculture for Waterloo County, and has been of material assistance to the District Representatives in furthering the work of that Branch.

Subjects:—

"Crop Rotation."
"Milking Shorthorns."
"The Dairy Herd."
"Seed Control Act."
"The Work of Farmers' Clubs."
"The Benefits of a Board of Agriculture."
"Our School System; Can We Improve It?"

STEVENSON, R. S., Ancaster.—Mr. Stevenson is one of the oldest Institute workers in Ontario. Being a practical dairyman and breeder of dairy cattle, he has been identified with advanced dairy work in Ontario for a long time. During the past few years he has acted as judge of live stock at many fall fairs, and has given excellent satisfaction. No matter where he goes, Mr. Stevenson is always welcome, and is recognized as a man who thoroughly understands the work he undertakes to discuss.

Subjects:—

"A Practical Talk on Dairy Cows, Breeding, Selecting, etc."
"Growing the Corn Crop and Handling It to the Best Advantage."
"How to Make Dairying More Profitable on the Average Farm."

SWINN, ALBERT, Mabee.—Mr. Swinn is a successful farmer, paying special attention to Dairy and Live Stock work.

Subjects:—

"The Breeding, Feeding and Care of Heavy Horses."
"The Dairy Herd—Feed, Care and Selection."
"Growing Corn for the Silo."

Evening.
"How to Interest the Boys and Girls on the Farm."
"Benefits of Institute Work."

WARK, A. E., Wanstead, Ont.—Mr. Wark has been engaged in farming for a number of years since taking an associate course at the Ontario Agricultural College, Guelph. He has emphasized Dairying and the growing of corn for silage and seed purpose.

Subjects:—

"The Growing of Corn for Seed."
"Silo Construction and the Making of Ensilage."
"The Use of Fertilizers."

WIDDIFIELD, J. W., B.S.A., Uxbridge.—Mr. Widdifield's identification ever since his graduation, with the farm and the work of various farmers' associations, has equipped him with a practical knowledge of not only stock and field subjects but of farmers' problems generally.

Subjects:—

"Alfalfa."
"Corn Growing and the Silo."
"Increasing Soil Fertility."
"Preserving Soil Moisture."
"Destruction of Noxious Weeds."
"Breeding and Feeding of Sheep."

Evening.
"Nature Study."

In addition to the list of speakers given herein, we have a number of well-qualified men, some of them experienced Institute workers, engaged to attend Short Courses in Stock and Seed Judging. It will be possible to utilize these men for a few days work in connection with the regular Institute meetings.

Women's Institute Lecturers and their Subjects, 1913-14

Backus, Dr. Annie, Aylmer.—Dr. Backus brings her medical training and practice, as well as her experience in country life, and places them at the disposal of the women of the Province. She is eminently practical, ready and willing to help womankind. She has been closely identified with Institute work throughout the Province for a number of years.

Subjects:—

"Hygiene of the Home and Aids in Nursing."
"Consumption and Its Prevention."
"The Importance and Meaning of Woman's Work."
"Training in the Home."
"Education of Girls."
"Physical and Mental Harm of Fault-Finding."
"Medical Inspection of Schools."
"Poultry Raising."
"The Physical Development of the Child."

Campbell, Miss Susie, Brampton.—Miss Campbell is an Institute worker of considerable experience, who always leaves her audiences enthusiastic in pursuing definite lines of work. She is untiring in her faithful efforts to leave with her hearers noble thoughts and sentiments in keeping with her tastes and surroundings. Miss Campbell is an ex-teacher and has judged dairy products, needle work, and fine art at many of our fall fairs. Her success in extending the Women's Institutes throughout Peel County has been most marked, and she has done much to stimulate branches in many parts of the Province to better work.

Subjects:—

"The Ideal Home."
"Individual Life of a Young Woman."
"The Influence of Women and Men."
"The Judicious Housekeeper and Homemaker."
"Home and School."
"Child and Parent."
"Our National Assets."
"Eugenics."
"The Mother's Everyday Problems."
"The Educated Farmer and His Possibilities."
"Imprints of Institute Work."

Dawson, Mrs. W., Parkhill.—Mrs. Dawson is an enthusiastic supporter of the Women's Institutes. She has done much to place the Parkhill Institute in the front rank of progressive societies. She was president of the local organization for years, and has given the work prominence through the local press. With her liberal education, wide reading and close study of present day conditions in the home, she is in a position to make the subjects announced of great interest and practical value.

Subjects:—

"Beyond the Hills of Home."
"The Farmer's Wife and Her Problems."
"The Women We Meet in the Institutes."
"What Our Friends Never Know."
"The Hand that Rocks the Cradle" (Problems for Mothers).
"Easily Made Garments for Women and Children."—Illustrated.

Gilholm, Miss B., Bright.—Miss Gilholm has been an efficient officer of the District Women's Institute of North Oxford, and is able to render much assistance to officers of both district and branch Institutes. Miss Gilholm has taken the regular creamery course at the Guelph Dairy School and holds a specialist's certificate in buttermaking,

as well as a diploma in the theory and art of buttermaking. Miss Gilholm's knowledge and appreciation of country life enables her to impart information in a manner much appreciated by the members in general.

Subjects:—

"Will the Dairy Cow Remove the Mortgage?"
"Thought of Old Friends and New."
"Canadian Women."
"Our Opportunities."

GREER, MRS. G. H., 7 Elgin Street, Hamilton.—Mrs. Greer's experience and practical housekeeping and office work, together with her close observation and the study of economic and social conditions will enable her to render valuable service to the Institutes.

Subjects:—

"Aims and Objects."
"Stepping Stones to Health."
"Home Nursing."
"The Home as a Nation Builder."
"Canning and Preserving of Fruits."
"Every Day Housekeeping."

HOTSON, MISS A. M., Parkhill.—With an ideal combination of country and city life and education, eight years' experience in kindergarten work has impressed upon her the needs of children and the necessity for common-sense in supplying these needs in their life both at school and at home. Trained in Ontario, Miss Hotson took post-graduate work at Chicago Kindergarten Institute and Home Making School, where in Gertrude House she had the opportunity of seeing the value of the Home Makers' and Arts Courses for young women, and since of making practical application of them in her own home and community, with excellent results.

Subjects:—

"The Education of Women."
"The Ideal School."
"Art and Character."
(*a*) "Pictures."
(*b*) "House Furnishing."
(*c*) "The Hunger for Color."
(*d*) "Literature and Music."

"Child Problems."
(*a*) "Children's Ideals."
(*b*) "Freedom and Law in Childhood."
(*c*) "Children from Over the Sea."

HUNTER, MRS. W. J., Pleasant.—Mrs. Hunter is one of our progressive Women's Institute members and has been of great assistance as a district officer in furthering the work in Peel County. She is mistress of a fine country home and has been active in local Institute work, as well as assisting at some of our Annual Conventions and attending meetings in various sections of the Province.

Subjects:—

"The Benefits of Institute Work."
"Common Sense in Housekeeping."
"Training Children in the Home."
"Don't Worry."
Evening.
"Improvement of Home Conditions."
"Homemakers and Patriots."

MURDOCH, MISS MARY E., Palmerston.—Miss Murdoch, since graduation in Domestic Science from Macdonald Institute, Guelph, has had experience in hospital work. Her familiarity with country conditions and requirements will enable her to give information to the rural Institutes which will be thoroughly appreciated.

Subjects:—

"Diet in Its Relation to Health."
"Home Economics."
"Some Farm Problems as They Concern Women."
"Bacteriology in the Home."
"Canadian Authors."

MCTURK, MRS. E. B., Lucan.—Mrs. McTurk has had special training in Optics and is a graduate optician. She is well and favorably known as an enthusiastic and efficient worker in local organizations, and several years' experience as a lecturer for the Department has shown her to be a practical and fluent speaker and her work is much appreciated. Her subjects speak for themselves.

Subjects:—

"The Care of the Eyesight."
"Home Care of Sick and Visiting Sick."
"Child Training in the Home."
"What that other Institute is Doing."
"Keep on the Sunny Side."
"For Home and Country."
"Held in Trust."

NORMAN, MRS. M. N., 616 Bloor St. W., Toronto.—Parenthood and racial ethics constitute one of the most vital, fundamental, and, strangely enough, one of the most neglected of all important themes. Mrs. Norman brings to its exposition practical views, clear enunciation, choice English, with chaste diction of unusually happy style. Her personality as a speaker is particularly attractive. Her teaching appeals to the judgment as definite, convincing and final.

Subjects:—
"The Individual and the Community."
"The Power of Personality."
"The Three L's—Laughter, Love, Life."
"How to Help the Boys and Girls."
"Child and Parent."
"Libraries and Literary Clubs."
"The Principles of Homemaking."
"Values."

PARSONS, MRS. L. M., "The Northlands," Laroque P.O., via Cochrane.—Mrs. Parsons is active in the work of the National Council of Women. Women's Institute work appealed to her and she has devoted much energy and thought in preparing addresses of vital interest to all women. Her wide experience in organization work places her in a position to give valuable advice to the officers of the Institutes. Mrs. Parsons will be willing to give addresses to children where this can be arranged. In many places the school authorities will no doubt be glad to have Mrs. Parsons address the children in the school. This can often be done in the forenoon at those points where the lecturer is to address the Women's Institutes in the afternoon.

Subjects:—

Afternoon.
"Home Nursing."
"The Child and the Story."
"Heredity."
"Mental and Physical Development."
"Marriage."
"The Magnetism of Personality."
"Canadian Laws Concerning Women and Children."
"Rural Economics."
"Reforms that Need Our Aid."

Evening.

"Our Inheritance."
"Canadian Writers."
"Women Workers of Our Time."
"Books with a Purpose."

POWELL, MISS M. V., Box 453, Whitby.—Miss Powell is deeply interested in everything which pertains to the advancement and education of the present and future nation-builders, and this work appeals very strongly to her. She has already had several years' experience in Institute work, and the logical, pleasing and forceful manner in which Miss Powell presents her elevating and instructive addresses appeals effectively to her audiences.

Subjects:—

"Canada's Possibilities."
"Character Building."
"Our Country's Assets."
"Refinement in the Home."
"A Present Day Need."
"How We Can Help Our Girls, and How They Can Help Us."
"Demonstrated Talk on Plain and Fancy Sewing."

REYNOLDS, MISS LULU, Solina.—Miss Reynolds has had extended experience as Secretary of a district Women's Institute, and as a Departmental delegate. Institute officers will find her advice and suggestions bearing upon Institute methods and work of special interest and value. The women on the farm will fully appreciate the services of one who has had practical experience in and made a close study of the everyday duties in the average home.

Subjects:—

"Hints for the Housewife."
"What We Eat."
"To-day and Yesterday."
"The Kitchen Garden."
"Our Institutes."

Evening.
"Character Building."
"The Development of Our Nation."

ROBSON, MISS ETHEL, Ilderton.—Miss Robson is a farmer's daughter, and a firm believer in the advantages of country as compared with city life. She is a practical bee-keeper, being Second Vice-President of the O. B. K. A., and is also interested in chickens. Miss Robson has addressed public gatherings with great acceptance, and her services will be much appreciated by the Institute members.

Subjects:—

"Bee-Keeping on the Farm."
"Poultry on the Farm."
"Economic Problems of the Country Girl."
"Literature and Life."
"Physical Culture."

SMILLIE, MISS E. E., 1075 Dovercourt Road, Toronto.—Miss Smillie has had the advantage of a university education and is a graduate of the Toronto General Hospital Training School for Nurses. She has had considerable practical experience in her profession, and, in addition to five seasons' Institute work in this Province, she was last year engaged in the extension of the Women's Institute movement in New Brunswick.

Subjects:—

"Home Nursing."
"Emergencies, with demonstrations in bandaging."
"Good Health."

"Disease Germs.
"Diet in Illness."
"Canadian Literature and Writers."
"Literature for the Home."

SMITH, MISS JEAN CAMERON, Powassan.—Miss Smith, after several years' experience in Public School teaching, took a course in nursing, and subsequently had charge of a Nurses' Training School in Japan; following that she has had several years in private nursing in New York and Northern Ontario. Miss Smith has had considerable experience as a lecturer, and can be depended upon to present the valuable facts gleaned from practical experience and study in a manner which will appeal to and benefit the Institute members.

Subjects:—

"Hygiene."
"Home Nursing."
"Tuberculosis—Its Prevention and Treatment in the Home."
"The Care of Typhoid Patients."
"Medical and Surgical Emergencies."—Demonstrated.
"Choice of Books."
"Patriotism in Our Public Schools."

WATTS, MRS. F. W., 51 Chicora Avenue, Toronto.—Mrs. Watts has had marked success both as an Institute officer and lecturer. She is a forceful, pleasing speaker, whose addresses have been much appreciated. Being a graduate of the American College of Mechano-Therapy, she will be able to give many valuable and helpful health hints.

Subjects:—

Afternoon.
"Would You Be Beautiful?"—Demonstrated.
"Home Treatment in Mechano-Therapy."—Demonstrated.
"A Talk with Mothers and Girls."
"What Are You Doing to Help Your Institute?"
"Canning and Preserving of Fruits."

Evening.
"Why Is It?"
"Your Influence in the Home."

WOELARD, MRS. M. L., 420 Bloor Street W., Toronto.—Mrs. Woelard is intensely interested in all matters which pertain to the home, and her addresses have been much appreciated. We can assure Institute officers and members that Mrs. Woelard will have messages of interest and benefit for her audiences.

Subjects:—

"Poultry Keeping for Profit and Pleasure."
"Home Influence."
"Meat Substitutes—Excellent Salads for Hot Days."
"Fruit Canning, Jelly Making and Marmalades."
"Health Culture."
"Plain Sewing and Art Needlework."—Demonstrated.
"Woollen Garments for Women and Children."—Illustrated.

REPORT

OF THE

WOMEN'S INSTITUTES

OF THE

Province of Ontario

1913

PART I.

(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE, TORONTO)

PRINTED BY ORDER OF
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1913

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TORONTO

To His Honour SIR JOHN MORISON GIBSON, Knight Commander of the Most Distinguished Order of St. Michael and St. George, a Colonel in the Militia of Canada, etc., etc., etc.

Lieutenant-Governor of the Province of Ontario

MAY IT PLEASE YOUR HONOUR:

I have the pleasure to present herewith for the consideration of your Honour the Report of the Women's Institutes of Ontario for 1913.

Respectfully submitted,

JAMES S. DUFF,

Minister of Agriculture.

Toronto, 1913

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WOMEN'S INSTITUTES OF ONTARIO, 1913.

To the Honourable Minister of Agriculture:

SIR,—I have the honor to submit herewith the 13th annual report of the Women's Institutes of Ontario, Part I, consisting of the proceedings of the Annual Convention held in November, 1912, together with a few selected papers, the statistical statement for the year ending with May, 1913, and list of officers for the year 1912-13.

It is gratifying to report a keen interest on the part of the members generally and effectiveness of work in nearly all the 750 branches which had a membership of 22,042 for the year 1912-13. For full details as to the activities of the Institutes I beg to refer you to my Annual report of the Convention (see page 25), and to the reports given by delegates at the Convention.

I beg to draw special attention to the fact that during the winter of 1912-13 we gave systematic instruction, by way of demonstration lectures, in Food Values and Cooking, Home Nursing, or Sewing to 1,667 persons. This promises to develop into a very prominent feature of Institute work.

Possibly one of the most important duties of public service at the present time is to place in the hands of the people in a manner which makes it possible for them to utilize it, some of the large fund of valuable information available on household matters generally, public health, school betterment, civic improvement, etc., and the Institute is one of the most effective means whereby this can be accomplished.

During the year 1912-13 we furnished speakers for 1,377 meetings, and the Institutes themselves held 6,204 additional meetings without outside assistance. The fact that the Institutes are required to hold a certain number of meetings on their own account and make reports of their activities to the Department, contributes largely to their permanency.

There has been great activity throughout nearly all parts of the Dominion in the organization and encouragement of Women's Institutes during the past year. This Department has been asked in several cases to recommend speakers for work in sister provinces, and we have furnished a number of reports, Hand Books and other literature bearing upon Ontario work to interested persons throughout the Dominion. From Prince Edward Island, New Brunswick and Nova Scotia, we have recently received most encouraging reports on the extension of the work.

The Department is deeply indebted to the Macdonald Institute, Guelph, for sending literature, consisting of standard works and articles gathered from many sources, to the Institute members to assist them in preparing papers and addresses for regular meetings. The Institutes are also deeply indebted to the Department of Education for supplying Travelling Libraries which are selected with a view to meeting the special needs of the Institute members in preparing addresses on various features of household activities as well as other lines of work in which the Institutes are interested.

The large band of Institute officers throughout the Province continue their loyal support to the work of the Institute, and while we have established nearly 800 Institutes there is yet an urgent demand for the extension of the organization to new localities.

Respectfully submitted,

GEO. A. PUTNAM,
Superintendent.

Institute District.	Membership.	No. of Meetings held.	Total attendance.	No. of papers read or addresses delivered.	Receipts.					Expenditure.							
					Cash on hand per last Report.	Members' fees.	Grants.	Miscellaneous.	Total receipts.	Expense for meetings.	Officers' salaries and expenses.	Postage and stationery.	Printing and advertising.	Lecturers' expenses and wages.	Books and periodicals.	Miscellaneous.	Total expenditure.	Balance.
					$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Algoma E	62	28	508	24	.....	12 75	9 00	9 35	31 10	.....	.....	1 48	.....	.....	.....	8 55	10 03	21 07
Algoma Centre	148	60	1,261	65	181 08	42 25	68 00	220 48	511 81	12 45	50 00	8 67	7 45	2 00	78 85	134 87	294 29	217 52
Algoma, North Shore	106	36	847	37	62 71	25 25	28 00	127 93	243 89	21 00	23 65	4 44	14 45	4 75	3 42	147 00	218 71	25 18
Amherst Island	53	12	189	22	20 15	13 50	20 00	25	53 90	3 50	9 00	1 74	.....	1 00	3 25	4 50	22 99	30 91
Brant, N	388	98	2,832	152	158 68	99 25	74 00	224 09	556 02	15 00	32 52	13 35	29 02	17 60	46 60	212 73	366 83	189 19
Brant, S	325	97	2,651	123	91 51	99 75	83 00	209 27	483 53	23 60	54 45	12 57	24 50	61 85	2 75	140 10	319 82	163 71
Brockville	66	12	271	16	67 22	18 00	10 00	66 15	161 37	10 00	.....	1 90	3 25	.....	1 00	37 50	53 65	107 72
Bruce, C	132	77	2,382	144	48 82	57 25	85 00	207 66	398 73	34 23	24 57	7 21	.....	26 75	41 10	105 51	239 37	159 36
Bruce, N	128	71	972	79	104 78	35 50	74 00	216 98	431 26	14 55	35 10	8 82	11 10	6 25	6 45	222 94	305 21	126 05
Bruce, S	169	46	1,468	70	125 77	47 00	59 00	120 05	351 82	12 00	21 83	5 21	9 00	22 95	13 65	79 45	164 09	187 73
Bruce, W	172	54	1,396	56	60 00	43 00	74 50	74 46	251 96	9 00	30 00	8 53	25 24	35 75	7 30	74 26	190 08	61 88
Carleton	270	92	2,158	100	102 30	54 50	71 00	75 52	303 32	18 90	25 00	8 62	17 75	8 00	7 87	67 89	154 03	149 29
Dufferin	339	153	3,505	193	257 97	85 50	108 20	438 82	890 49	43 31	51 72	16 78	46 52	17 25	23 84	187 04	386 46	504 03
Dundas	213	65	1,721	68	131 03	66 00	56 00	356 57	609 60	60 38	28 00	7 90	30 85	15 26	4 60	244 96	391 95	217 65
Durham, E	440	107	1,819	105	215 06	114 25	105 00	394 57	828 88	22 45	25 00	16 66	20 05	31 90	5 45	341 02	462 53	366 35
Durham, W	164	66	1,449	97	165 52	53 00	87 00	177 79	423 31	11 00	24 60	7 29	18 30	13 15	60 50	110 40	245 24	178 07
Elgin, E	184	64	2,026	71	163 30	43 25	81 00	149 66	437 21	22 01	42 55	7 35	32 60	5 45	.....	129 70	239 66	197 55
Elgin, W	157	47	1,333	73	67 19	45 50	78 00	73 44	264 13	8 05	20 00	7 72	11 73	2 90	.....	127 20	177 60	86 53
Essex, N	237	67	1,509	74	222 38	39 25	46 00	57 24	364 87	6 95	24 30	4 96	15 00	21 20	50	28 71	101 62	263 25
Essex, S	137	75	2,332	88	391 70	107 25	91 00	487 21	1,077 16	11 05	38 00	20 45	35 15	14 35	.....	314 25	433 25	643 91
Frontenac	52	21	423	17	69 42	12 75	37 00	176 16	295 33	5 00	.....	2 26	7 00	9 50	.....	209 14	232 90	62 43
Glengarry	130	26	1,213	22	58 74	45 50	28 00	97 94	230 18	24 25	.....	7 38	9 50	2 00	.....	12 19	55 32	174 86
Grenville, S	133	47	841	42	26 00	21 50	65 00	62 70	175 20	7 70	.....	4 99	6 06	27 50	1 10	17 06	64 41	110 79
Grey, C	460	203	3,348	307	290 92	107 75	132 00	458 76	989 43	65 11	33 00	24 19	45 90	32 95	40 53	349 24	590 92	398 51
Grey, N	384	126	3,310	243	78 42	83 75	96 00	93 95	352 12	21 35	26 20	13 27	32 42	36 50	2 25	78 25	210 24	141 88
Grey, S	172	85	1,798	118	193 82	43 50	78 00	144 40	459 72	15 68	20 90	7 46	15 00	23 75	5 50	149 88	238 17	221 55
Haldimand	439	205	5,021	294	195 04	125 50	118 00	237 58	676 12	40 42	65 25	14 23	30 45	34 50	22 86	85 85	293 56	382 56
Haliburton	182	26	502	33	74 38	23 50	52 00	130 57	280 45	4 50	12 55	4 45	1 00	2 25	2 15	156 14	183 04	97 41

Halton	486	122	4,956	158	371	58	126	05	101	00	106	92	705	55	21	66	74	90	22	41	27	55	17	65	55	31	176	35	395	82	309	73
Hastings, E	472	94	1,972	109	88	04	76	25	68	00	1,048	58	1,280	87	39	50	45	00	5	91	33	70	32	05	3	85	898	46	1,058	47	222	40
Hastings, N	294	105	2,060	155	200	44	61	75	96	00	216	03	574	22	5	00	60	15	9	00	11	50	22	85	26	70	196	60	331	80	242	42
Hastings, W	125	43	789	31	42	31	31	50	41	00	35	83	150	64	7	40	15	00	6	69	10	50		70	1	65	42	01	83	95	66	69
Huron, E	251	96	2,238	106	84	30	68	50	84	00	280	00	516	80	63	29	35	00	18	55	19	00	17	60	11	54	199	88	346	86	151	94
Huron, S	26	19	180	31	52	76	1	75	20	00	.....		74	51	3	00	3	00	2	00	4	00	.....		4	40	33	75	50	15	24	36
Huron, W	257	88	2,184	109	124	65	72	75	64	00	230	19	491	59	14	50	29	90	10	17	15	35	21	20		50	194	64	284	26	207	33
Kenora	73	36	609	47	40	84	18	75	34	00	22	90	116	49	4	05	15	70	6	33	3	25	1	50	5	87	44	25	80	95	35	54
Kent, E	278	97	2,175	157	205	85	75	00	74	00	362	12	716	97	14	60	48	70	10	32	31	75	43	70	.....		272	06	421	13	295	84
Kent, W	310	88	2,008	121	102	74	61	00	68	00	319	05	550	79	14	60	34	10	8	04	10	50	15	00	18	00	310	05	410	29	140	50
Lambton, E	374	141	3,743	244	351	74	120	00	104	00	376	14	951	88	76	36	34	15	20	95	22	30	27	75	4	65	295	52	481	68	470	20
Lambton, W	361	124	2,581	155	223	24	70	75	98	00	34	75	426	74	6	50	49	15	13	56	14	20	23	95	7	60	171	56	286	52	140	22
Lanark, N	175	45	1,339	34	19	52	26	00	25	00	4	19	74	71	11	48	10	60	3	21	12	10	6	00	.....		10	34	53	13	21	58
Lanark, S	174	38	924	73	31	01	49	50	25	00	6	00	111	51	9	25	12	05	3	11	15	25	7	75	.....		23	31	70	72	40	79
Leeds, South	180	63	2,071	86	449	07	60	25	76	00	223	74	809	06	6	15	34	40	7	09	8	25	16	50	3	50	393	22	469	11	339	95
Leeds, North and Gren.	40	11	184	12	35	53	10	00	10	00	3	75	59	28	9	00	.....		.....		2	95	.....		.....		2	35	14	30	44	98
Lennox	129	23	390	27	43	25	31	00	47	00	50	78	172	03	.....		18	00	2	26	7	07	.....		86	43	31	20	144	96	27	07
Lincoln	219	45	1,507	59	173	03	53	25	55	75	252	17	534	20	47	20	48	62	7	57	18	00	34	40	.....		206	48	362	27	171	93
Manitoulin, E	138	71	1,565	117	147	51	33	50	52	00	159	39	392	40	13	85	13	50	9	34	4	00	5	25	27	01	81	31	154	26	238	14
Manitoulin, W	110	76	594	132	149	72	32	00	46	00	118	50	346	22	11	48	36	00	7	43	.....		7	00	22	35	147	51	231	77	114	45
Middlesex, E	309	85	2,173	103	127	60	77	75	64	00	266	99	536	34	56	60	31	54	10	70	19	80	43	40	43	45	73	67	279	16	257	18
Middlesex, N	339	98	2 520	168	232	32	96	25	84	00	233	79	646	36	82	62	25	50	13	37	11	30	25	75	9	50	288	48	456	52	189	84
Middlesex, W	295	72	2,326	105	66	52	63	00	72	00	231	90	433	42	28	91	20	00	9	41	8	50	2	70	19	20	129	53	218	25	215	17
Monck	227	81	1,635	84	43	99	59	25	24	00	201	97	329	21	4	48	.....		4	94	6	51	8	65	2	00	225	91	252	49	76	72
Muskoka, C	52	26	293	36	43	81	14	00	28	00	16	80	102	61	.....		10	00	3	31	1	50	4	85	4	50	17	75	41	91	60	70
Muskoka, N	112	74	948	69	187	39	30	25	52	00	83	19	352	83	1	25	15	50	8	50	16	75	1	00	4	27	124	14	171	41	181	42
Muskoka, S	235	103	1,779	75	157	07	55	15	191	00	460	61	863	83	11	45	15	00	10	16	11	75	10	50	14	00	531	01	603	87	259	96
Nipissing, E	46	17	256	19	23	72	11	50	6	00		80	42	02	.....		.....		1	60	.....		.....		.....		7	25	8	85	33	17
Nipissing, W	49	20	241	24	119	06	10	25	6	00	265	03	400	34	.....		.....		4	20	4	75	.....		1	85	372	26	383	06	17	28
Norfolk, N	136	63	975	62	147	67	43	50	62	00	59	53	312	70	15	95	15	00	5	17	9	53	6	00	19	98	66	02	137	65	175	05
Norfolk, S	35	8	118	8	.....		.....		.....		.....		.....		.....		.....		.....		.....		.....		.....		.....		.....		.....	
Northumberland, E	357	107	3,731	189	196	93	106	25	102	00	599	64	1,004	82	42	57	70	00	12	57	45	80	34	23	38	00	406	72	649	89	354	93
Northumberland, W	361	92	2,531	132	221	93	63	25	89	00	184	66	558	84	21	00	46	60	16	92	10	93	30	03	33	43	202	49	361	40	197	44
Ontario, N	240	103	2,119	156	141	15	58	75	68	00	97	25	365	15	4	50	20	00	12	30	21	25	30	84	.....		117	67	206	56	158	59
Ontario, S	320	101	2,508	113	203	36	81	00	95	00	42	41	421	77	30	89	61	15	15	78	30	30	16	18	1	50	76	02	231	82	189	95
Oxford, N	229	107	2,269	117	204	54	68	35	95	00	323	48	691	37	42	60	65	40	11	79	24	05	24	90		95	335	73	505	42	185	95
Oxford, S	248	80	1,885	103	169	75	59	50	86	00	407	95	723	20	17	00	60	55	9	77	23	25	30	05	76	72	300	17	517	51	205	69
Parry Sound East	242	166	2,349	145	364	54	82	75	48	00	502	70	997	99	59	40	5	25	11	60	7	55	11	70	44	13	270	02	409	65	588	34
Peel	618	130	3,239	149	341	56	104	50	125	00	394	71	965	77	55	65	59	50	25	45	45	50	14	55	.....		367	96	568	61	397	16
Perth, N	147	48	1,605	62	55	69	37	75	34	00	284	31	411	75	23	83	18	00	4	99	16	00	4	58		75	59	15	127	30	284	45
Perth, S	334	86	2,068	106	123	17	80	75	63	00	349	02	615	94	41	77	47	15	15	88	25	90	18	05	.....		124	40	273	15	342	79
Peterboro', E	106	22	669	20	174	57	22	75	22	00	59	86	279	18	16	82	.....		4	44	8	20	7	86	1	77	37	85	76	94	202	24
Peterboro', N	44	20	259	17	52	21	11	25	6	00	5	40	74	86	.....		.....		1	01	.....		1	00	18	50	7	95	28	46	46	40
Prescott	89	13	970	13	27	05	20	25	10	00	4	55	61	85	10	00	.....		1	05	11	90		30	.....		27	39	50	64	11	21
Prince Edward	390	106	2,840	209	170	93	98	50	61	00	270	02	600	45	44	40	32	30	9	35	25	65	10	95	6	25	372	40	501	30	99	15

STATISTICAL REPORTS OF ONTARIO WOMEN'S INSTITUTES FOR THE YEAR 1912-13.—Continued.

Institute District.	Membership.	No. of meetings held.	Total attendance.	No. of papers read or addresses delivered.	Receipts.					Expenditure.								
					Cash on hand per last Report.	Members' fees.	Grants.	Miscellaneous.	Total receipts.	Expense for meetings.	Officers' salaries and expenses.	Postage and stationery.	Printing and advertising.	Lecturers' expenses and wages.	Books and periodicals.	Miscellaneous.	Total expenditure.	Balance.
					$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Rainy River	160	76	1,125	65	123 36	39 75	49 00	228 12	440 23	26 50	31 35	11 94	5 75	13 55	41 05	212 50	342 64	97 59
Renfrew, N	154	71	948	92	132 85	42 25	62 00	172 01	409 11	17 00	23 00	7 59	14 86	16 50	23 20	169 06	271 21	137 90
Renfrew, S	31	20	349	34	2 99	10 25	10 00	281 69	304 93	2 50	.....	11	.....	.....	.....	287 32	289 93	15 00
Russell	60	10	321	10	.....	15 25	20 00	105 15	138 40	50	.....	74	.....	1 50	.....	121 55	124 29	14 15
Simcoe, C	320	127	2,435	183	142 04	78 75	101 00	133 44	455 23	7 00	39 50	11 58	5 60	16 25	30 06	177 29	287 28	167 91
Simcoe, E	270	84	1,793	92	151 04	76 75	69 00	288 70	585 49	8 50	39 50	14 88	31 40	31 60	1 70	247 10	374 68	210 81
Simcoe, S	152	74	1,223	116	93 58	49 50	72 00	248 38	463 46	13 80	15 00	6 50	22 20	1 75	53 55	198 26	311 06	152 40
Simcoe, W	249	117	2,728	147	123 60	61 50	80 00	239 93	505 03	36 89	28 70	13 11	18 70	34 50	29 55	156 52	317 97	187 06
Stormont	46	18	394	24	15 67	11 25	25 00	135 21	187 13	6 80	.....	4 47	1 60	5 50	.....	80 28	98 65	88 48
St. Joseph Island	100	37	580	36	24 21	25 00	34 00	91 78	174 99	1 10	12 00	5 32	4 75	2 50	25 34	101 65	152 66	22 33
Temiscamingue	245	163	1,929	133	264 61	66 25	91 00	180 74	602 60	22 50	27 35	20 84	13 10	9 40	30 05	194 96	318 20	284 40
Thunder Bay	253	105	2,101	96	165 13	80 75	104 00	257 85	607 73	42 15	19 00	19 10	38 34	3 50	17 30	279 64	419 03	188 70
Union	126	30	609	31	94 33	30 25	38 00	71 52	234 10	15 95	29 50	1 61	8 10	8 45	25 10	93 65	182 36	51 74
Victoria, E	315	89	2,359	141	66 19	74 25	123 38	50	264 32	40 05	35 90	14 70	17 35	14 70	57 61	8 50	188 81	75 51
Victoria, W	467	138	5,203	191	201 18	123 25	91 00	281 72	697 15	57 66	59 25	22 66	40 45	12 85	8 75	329 80	531 42	165 73
Waterloo, N	204	69	1,625	76	175 59	51 75	68 00	28 35	323 69	24 55	25 00	9 27	6 75	33 60	26 60	25 95	151 72	171 97
Waterloo, S	278	82	2,516	137	389 40	98 75	62 00	544 69	1,094 84	53 70	98 05	9 99	22 62	67 65	35	509 97	762 33	332 51
Welland	523	109	2,541	139	252 50	115 75	95 00	747 83	1,211 08	14 94	106 00	22 82	167 42	10 15	48 53	272 88	642 74	568 34
Wellington, C	184	97	1,840	140	123 32	55 50	89 50	61 77	330 09	21 81	28 00	8 60	13 75	20 40	.....	100 42	192 98	137 11
Wellington, E	186	77	1,494	92	137 29	45 00	58 00	148 01	388 30	2 99	40 50	12 43	24 20	21 90	1 60	111 57	215 19	173 11
Wellington, S	145	67	1,517	106	114 37	36 00	46 00	69 99	266 36	8 45	32 75	7 52	9 75	11 50	38 95	50 70	159 62	106 74
Wellington, W	143	48	675	68	191 46	36 50	34 00	85 57	347 53	9 65	46 00	11 74	3 25	9 50	.....	124 42	204 56	142 97
Wentworth, N	246	116	2,834	141	192 67	108 50	110 00	225 13	636 30	44 07	20 00	13 12	29 05	33 82	2 45	251 70	394 21	242 09
Wentworth, S	343	112	2,859	176	221 36	98 50	131 00	116 32	567 18	47 56	56 40	29 81	26 07	26 00	7 12	109 74	302 70	264 48
York, E	500	105	4,447	163	384 58	127 50	89 00	343 17	944 25	34 70	50 16	27 43	30 38	29 98	12 80	292 55	478 00	466 25
York, N	276	115	3,174	163	213 30	84 75	98 00	288 11	684 16	21 40	50 54	18 97	37 70	19 23	66 06	229 51	443 41	240 75
York, W	291	107	3,679	137	102 51	82 75	89 00	73 15	347 41	25 18	32 85	20 29	33 10	25 95	50	118 48	256 35	91 06
Total	22,042	7,581	178,858	9,909	$ 14,257	$ 5,728	$ 6,534	$ 19,674	$ 46,193	$ 2,142	$ 2,898	$ 995	$ 1,783	$ 1,599	$ 1,550	$ 16,905	$ 27,872	$ 18,321

ELEVENTH ANNUAL CONVENTION

OF THE

ONTARIO WOMEN'S INSTITUTES

A joint meeting of the Ontario Fruit Growers' Association, Vegetable Growers' Association, Horticultural Societies, Bee-Keepers, Farmers' Clubs, Farmers' Institutes and Women's Institutes was held in University Convocation Hall on Wednesday evening, November 13th. This session is reported below, and following this will be found a report of the Convention proper.

DR. C. C. JAMES, CHAIRMAN.

Ladies and Gentlemen: You have come to this central hall of the chief University of the Province from all parts of this great Province of Ontario; you come here with different missions; some of you are most interested in the increase and improvement of the products of the field, the orchard and the garden. Others are most interested from the point of view of our towns and cities and the conditions surrounding our homes; and, there are others who have come here to discuss, more particularly, the conditions of our home life. We have on the platform those who will speak to you about home surroundings, those who are qualified to speak to you upon the broad question of general agricultural improvement, and those who are more particularly concerned in the improvement of the home, and we go even one step farther, and we have with us to-night a man who is particularly interested in those who have drifted away from the home. There has probably never been an audience gathered in Toronto concerned about greater questions than those in which you are concerned this week. Of course if one judges by the daily papers, there are still greater things which monopolize the attention of the common people. The time may come when the people will be as much interested in the subjects you are considering as they are in other subjects that are not nearly as important. You are working along lines which go right to the foundation of Citizenship, and surely there is nothing to which we should give greater attention.

I have very much pleasure in introducing to you a man who has been faithful to the interests of the horticultural work of the Province, who has given a great deal of his time to it, who is enthusiastic on the subject and who is here to represent the Horticultural Societies, the Rev. A. H. Scott.

ADDRESS.

REV. A. H. SCOTT, M.A., PERTH, ONT.,
Representing the Horticultural Societies of Ontario.

Mr. Chairman, Women of Ontario, Delegates to Conventions, and Others:

You place both honor and responsibility upon me to-night.

To have premier position on a programme which is intended to be helpful to the men and women assembled in a place such as this, and representing interests

so varied and so important as those which this auditory stands for, I feel to be a great honor. And to strike the right key note on this night's occasion, I feel to be a great responsibility.

In the main I suppose that this assembly is composed of men and women who in one way or another, are identified with the numerous organizations that are meeting, in Convention, this week in the Capital City of our Province. In thinking of the discharge of this duty which falls to me now I had, at first, in mind the representatives of Women's Institutes only. But the sphere has become enlarged Let us, men and women, have mutual share in what of worth lies in these well intentioned references.

It has been my privilege to attend a great many conventions in my own land in the Mother Country, and in the large centres in both Continental and American countries. I have attended some of these as a traveller seeking to improve myself and the people as well who come within the range of my influence. I have attended others in a representative way; and others again as a special Press Correspondent. I have never returned from a Convention without bringing home with me some profitable lesson learned, or some impression permanently fitted into my being.

If it would be of interest and profit to you I would take pleasure in telling you of some conventions from which I came home a larger, wiser and better man. The principal feature in each instance that I relate will at least let you know how the benefit came to me, and will let you into the soul of these sentences that I have the privilege of addressing to you.

A gentleman who, at the time, belonged to Montreal, but who afterwards was leader in a great enterprise in this City, was my travelling companion some years ago through Norway, Sweden and Denmark. We were two of a party organized in London, and destined for Scandinavia. My friends in Scotland thought that the trip under contemplation was too strenuous a one for a woman, so I left my wife in Edinburgh with friends. My companion had no wife to bring We left the port of Edinburgh on a Friday night, on the good Steamship "Sirius," and anchored on the west coast of Norway on the first Sunday morning of our Scandinavian tour. We belonged to a travelling party numbering about one hundred. Through fiords beautiful, and across country majestic, by ship, karicle and Stolkjaerre, we reached Throdgem. On Saturday night we crossed the boundary between Norway and Sweden. We came to the first town in Sweden that night —the town of Ostersund. In those days railway trains had a rest on Sunday and the people of this town invited our party to be their guests until train time on Monday morning. A Swedish of Ostersund, an alderman of the town I believe took my travelling companion and myself to his home. He introduced us to his wife by gesture and by heart response, for neither of them could speak our tongue and neither of us could speak theirs. They gave us their best sleeping chamber inviting in every way, with a bed for each of us. We slept soundly that night But it was the awaking! Without even "By your leave" in came a woman. Before one had time to say no, she was over to my clothes and into my pockets. Before my fellow-sleeper had his eyes open this same woman, with my suit of clothes over her left arm, was round at the side of my friend's bed rummaging in the pockets of his coat, waits-coat and trousers. As he was awaking to a realization of what was going on, the woman disappeared from the room leaving two Canadians without their outer garments. I said to my friend, "we will indeed look unkept and unclad if we have to make the rest of our journey without our clothes!" But the garments were brushed and in a little while restored by the same party

who took them off, and we had a first lesson, on the way to a convention, in *the purity and simplicity of a Swedish home.*

But something in that home, before we left it, impressed me more than the early morning robbery by the maid. The carriage was at the door half an hour before train time on Monday morning. The gentleman of the house and his estimable lady were in the sitting room and we were with them there. They had done about all that hospitality could do for guests. But one thing remained. The wife passed from the sitting room into the drawing room, and her husband beckoned us to follow. On a table lay an open book. It was a copy of the Word of God. Four of us stood there bending over that table while that woman drew her finger over a certain page and caused it to pause at a certain sentence. We came to learn at what place in Scripture her hand halted and what was the significance of these parting proceedings. Our host and hostess meant to say to us, our understandable greeting must proceed from our common interest in the truth that lies there, and the secret of the satisfaction that belongs to this home belongs to this Book also. And thus they sent us on our way.

Women of Ontario, seeing that one part of the motto pertaining to the special service that brings you here is "For Home," I thought that you would believe that I am is the line of good taste and requirement when I encourage you to be impressed with the greatness of home, and with the worth of God's Word to all our homes in Canada.

I returned to my own land that year impressed with another thing and if you will understand me I will tell it in a few words. These first incidents in travel pertained to a time when we were on our way to a convention. That convention was the World's Y.M.C.A. Convention held at the invitation of the King, in Stockholm, the Capital City of Sweden. My friend represented the Province of Quebec. I was the representative from the Province of Ontario. We were together for the week of the convention with a certain family. Before the first day of our acquaintance was over the only member in that Stockholm family who could speak the English language came to me, and said to me something like this,—"It is our practice to read a portion of God's Word and to have prayer together in our family. My father and I have talked it over and we thought that I would read this portion to-day and my father would pray; and to-morrow we thought that one of our guests would read and the other one would pray." So it was agreed, and so it was done, and so it continued while we remained with that family. That cultured Swedish woman, graceful in her form, engaging in her features, attractive through her broken English, polished through her goodness, rose with us from her knees, told us what her father prayed for, and in the sweetest way informed us that because they honored God in that family she knew they had the blessings that were enjoyed in that family.

That is the sort of family that is an influential factor in the make-up of a country. And women of Ontario, as you have as another part of your Motto "For Country," you will, I beg of you, know that it is the voice of a friend that commends to you a like observance in the foundation processes of this Dominion. Suffer this quotation from him who is the present occupant of the British Throne: "The foundation of the Nation is strong and unshaken while the family life of our race and nation is strong, simple and pure."

I went to a convention which was held in Washington and to me the most impressive spectacle in the public gatherings was that of a plainly-dressed woman who sang before the thousands, and who was introduced by Sankey, the honored in song. Moody and Sankey had been there some years before. Something in the

music that Sankey sung touched that young woman's heart and she became a changed person. Before Sankey left the city that woman said that her ambition was to return to her humble calling and use her influence to improve those who were with her at the Post of Duty. Sankey told this to the multitude. When he returned to Washington he inquired about the woman and found her at her humble service. He asked her if she would sing before the convention. She sang the hymn that was the means of bringing her to Christ.

Others may have seen other things in Washington at that convention; so did I. And I have seen many things there since that day. But my richest and most rewarding memory is of a woman on the right side in life, and resolutely serving at the Post of Duty.

More recently I was in this City. I was in one of those seats in front of me, in this Convocation Hall, where we are met to-night. I have a recollection of the chairman, and of the crowd, and of the programme, and of my first attendance of a Women's Institute Convention. I thought then that our Ontario Women who serve purposefully and intelligently in Institute Work are a great blessing to this Province. I think so still. But when I arrived at my hotel at the close of that Convention Session and asked myself the question, "what impressed you most?" the answer that I then made was: the most impressive thing to me was the substance of a sentence. I am not sure that I have it just as it was given. But as I have it, it possessed me two years ago and I am possessed of it now. It was given by one of your women. And it was said of a woman. And the saying is this: Men at her side grew nobler, girls purer, and all through the town the children were happier that pulled at her gown.

If the people who hear me to-night would receive this four-fold thought and put it in practice in life I should be glad that it has been my privilege to emphasize it now: the thought of God and His Word in the home, the thought of the God-fearing family as a factor in the National Life; the thought of each individual conscientious and content at the post of duty and the thought of hallowed influence permeating society.

An additional word is expected of me before I sit down. The interests of Horticulture and the Leaders in Horticulture call for a practical utterance through the one who is addressing you. We are in Toronto, a great many of us, this week with the avowed intention of contributing something to that historic and honored enterprise which is named by the name of the soil, or the garden or the field.

I think one of the first essentials among us is that we should have the proper conception of the Horticultural Sphere. I protest, in the name of Science and in the name of Enterprise against that view of Horticulture that confines it to the few inches of space that is devoted to some half-cultivated growths in somebody's back yard. Horticulture is a large thing, a reputable thing, a scientific thing, an evolutionary thing, a tremendously influential thing in this new land of Canada.

One of the most eminent representatives of the soil on this continent went up and down the land preaching the agricultural doctrines of Drainage, Tillage, Clover and Fertilizer. He cared not which had first place in discussion. But no one of them must be missing. Combine the four, treat them fairly and you will have high-class farming.

I do not want to be technical in speech, but I do desire that all my horticultural confreres may know the scientific terms covering our field of operations—Olericulture, Pomology, Floriculture, and Nature Architecture. Please get the meaning behind these four terms, and know that Horticulture invites you into a large and wealthy place.

A question and an encouragement belonging to each of these scientific terms.

1. Olericulture is culture in the soil devoted to vegetables. Why is it, with all the vegetables that are grown, that so few have a bed of asparagus? Take the gardens in the cities, towns, villages and country places in Ontario, and nineteen out of twenty of them have no asparagus bed. It is a fault. No better thing does Mother Earth produce for the table in spring time than good asparagus. Now this is the message to the multitude. Get these one hundred roots from somebody and get them into the ground next spring. Read up in the meantime. You are missing one of the finest products from your plot when you are without this product. It is good for digestion. It is a preventive of evil. I am sure it will work with others as it works with some of us. It is for our physical nourishment, yes and for our growth in grace.

II. Pomology deals with the orchard and small fruit gardening. Now what about the gooseberries in your garden? Have you any? Are they the best kind? Are they the best kind that grow by the cattle path or the kind that they bring into Covent Gardens from Surrey and Kent in England? Try the good kind next spring. Get them over from the other side of the Atlantic if you cannot get them here. We want the best things in Canada and the best people. Both gooseberries and goodness will thrive here if you treat them well.

III. Floriculture has to do with flowers, and roses, and perfumed plants and decorative shrubs, and perennial borders, and such like. Now tell me about your Canna bed. Is it so that you have a lawn and a yard and a garden and you have not yet had the Canna on your premises? Country people, towns people, city people, if you have not had the Canna before, have it just as soon as you can. When some of the ignoramuses in the distance twit you because in Canada we live among the ice and the wolves and the other fur-bearing animals in frigid latitudes, send them word that they are mistaken, that this is a tropical land invite them to your home when your well-tilled Canna plot is at its best and they will be, in real truth in the tropics.

IV. Nature Architecture, that deals with the landscape side of the garden, with the out-of-door improvements in Horticulture. It is a large subject. For the city man and for the country man it is a growingly great department of the activities of the times. My friends, do you know what is meant by the Vista? It comes from the same root word as Vision. It tends to those conditions that encourage us to see well, and to have the eyes look right on, and to face forward. It bids the man in circumscribed area cut out those brushy hindrances that obstruct the view that hide from you the elm or the water, nor the hill in the distance. It invites the man in the larger area to chop away the growths that prevent the circulation of air and the blessings of the sunshine. It announces itself to the people of the young city to provide for the drives, the open spaces, and the outskirts so that the population may breathe and grow virile, and be useful, and appreciative, and happy.

Do you really believe, good friends here to-night, that you live in a part of the world that is signally favored for the carrying out of these principles, moral and horticultural, that tend to the development of a great nation?

I quarrel with no one who stands for some other place east, west or elsewhere. But the best east and the best west that I know of is the spot on this continent that lies between Patricia on the one side and the St. Lawrence and the Great Lakes on the other, the spot in North America that is surrounded at the one end by the District of the Lake of the Woods and at the other by my native Glengarry.

Let our people right here in the Province of Ontario do the fair thing with God, with their neighbor, and with themselves; let them have high place in their esteem for man's first employment; let them guard against that intercourse which while it may make wealth accumulate, cause men to decay; let them keep a hopeful lookout for the returning Christ and the coming reign; let them keep the vista clear between the Earth and Heaven, then among the men of our land the fathers will be kings and their sons princes, and as for the women—every mother may move a goddess and every daughter may walk a queen.

THE CHAIRMAN: The Rev. Mr. Scott referred to the simplicity of the home life in Sweden. Just across the border I was shown through a Norwegian home. In the corner of the bed-room stood the old-fashioned four-poster bed and across the top was the inscription, "A good wife cometh from the Lord." (Applause.) Some years ago, an Englishman came out to this country to become a Canadian. He knew nothing about farming; I do not know any shorter and surer way of becoming a Canadian than to go upon the land. He finally settled in the Province of Saskatchewan, and last year he received the thousand dollar prize for producing the best wheat on the North American Continent; he made good. Another Englishman came to this country and settled in the Province of Alberta. When he left the Old Country, he did not know how to milk a cow. He found out in Alberta. He found out so well that about ten days ago, the Governor and the Premier and all the important Canadian Pacific officials, and everyone who counted for anything in public life, gathered together at Red Deer to give him a banquet. Why? Because this Englishman, who had learned farming in this country, had produced what some people say is the best cow in the British Empire.

Another Englishman came to this country to become a Canadian, and he must, too, go on the soil; he made good over here in the good old County of Lincoln among the apple and plum trees. From the County of Lincoln, he went to British Columbia, and now he is Minister of Agriculture for Canada and he is making good in that important position. I am going to ask him to address you at this time. (Applause.)

ADDRESS.

HON. MARTIN BURRELL, Minister of Agriculture for the Dominion of Canada

Mr. Chairman, Ladies and Gentlemen, and Fellow-Workers in the Cause of Agriculture in Canada:

Sometimes we get wearied and tired at Ottawa and it does every Minister good to get away from it, if only for a short breathing spell, and came into contact with the source of all authority, namely, the Canadian People, who are carrying on the great work of the country from day to day. I am glad, Mr. Chairman, to have come away and to have the opportunity of addressing this audience and to say a few words to you and to receive, as I know I shall, fresh stimulus in discharging the duties that have been entrusted to me by the Prime Minister of Canada.

Most of you are educational workers, you are factors in the creation of the new agriculture in Canada. You stand for the betterment of agricultural conditions and for the betterment of rural life, the life that makes that double appeal, not only to a man's financial instincts, but also to those deeper instincts which are found in our common humanity. After all, we have not only to be clothed and

fed, but there is something more in life. It is each man's business to create such an environment that from it will spring the very best type of man to be found in any modern civilization. You represent also, not only private initiative, but co-operative work, and you are here to testify how far the State may go in assisting agriculture. The old doctrine of political economy called *laissez-faire,* that the State was only concerned in keeping law and order, and that under the sheltering aegis of the State each individual can work out his own economic, political and industrial salvation has gone by the board. There is this much to be said for it, however,—that in the countries which have carried that political doctrine into effect, there have been some of the finest human efforts achieved and some of the most illustrious work done. There has in recent years been a tendency for men to fly to the other extreme. They have tried to preach the doctrine that the State, practically, should do everything for a man, and that nothing should be left to individual enterprise; that the State is warranted in stepping in and initiating all kinds of enterprise and seeing that every individual is assisted in carrying that work into effect. I do not think that doctrine, in its extreme, is productive of very good results. I am absolutely sure that it is sometimes productive of evil results. To magnify the true function of the State simply creates a tendency in man to lean altogether upon the State for assistance and to play havoc with individual enterprise, with that initiative and self-reliance which must characterize any nation that has any great work to do.

Just as I was leaving Ottawa, I slipped a small book into my pocket to read on the way—it is a very good thing to do. I have no doubt many of you have that habit. If you have not, I would advise you to acquire it. This particular book happened to be called "Co-operation and Nationality," by a very clever and able writer on the Irish land question, named George Russell. If any of you have not read it, I would advise you to do so, because you will get a lot of matter that you may very well apply in your own daily problems. One sentence struck me as particularly true; it was this: "When a man becomes an imbecile, his friends usually put him in an asylum, but when the people become decadent and imbecile, they usually place themselves in the hands of the State." There is a good deal of truth in that phrase. It is perfectly obvious that the finest kind of help the State can give is the help whereby the people can help themselves; to help a man to realize that not by isolated individual effort can he achieve the best results, but that by linking his fortunes and energies and hopes with those of the rest of the community, he can reap a greater harvest and arrive at greater achievements than he possibly could alone.

As I understand agriculture to-day and our national life of to-day the problem that faces all of us is the development of the rural civilization in the fullest meaning of the word. The same writer whom I have quoted made also this remark: "a fine social order requires three things: First, it requires economic development; secondly, it requires political stability, and, thirdly, it requires a desirable social life." I want to touch on one or two of these points during the next few minutes. The problem that faces us in Canada is different, of course, from that in other countries. It is almost a truism to say that agriculture in a country like Canada is the basic industry of the country. But I might go farther and say that the condition of agriculture in a country like Canada is a true criterion of the welfare of the whole of the national and social life. One thing a nation, such as this, is bound to do is to safeguard its producers. We might wipe out of existence a great many things that people look upon as the finest flowers of civilization: we might wipe out many things that are thought to be brilliant and beautiful

in our great centres, and man would still live and might prosecute his work in a not ignoble way; but wipe out the man who lives in the silent fields and prosecutes his work and lives in communion with nature and the stars, and you absolutely wipe out life itself. And that is something that everybody, including statesmen and politicians, has got to remember and treasure deeply.

The best way of dealing with problems as they are presented to each nation is a matter of extreme difference of opinion. The Constitution of the United States specially assigns certain things to the Federal Government and assigns certain others to the States themselves, but those that are not clearly defined or assigned, fall by their constitution, within the jurisdiction of the several States, and the States themselves are particularly jealous of having any encroachment on their jurisdiction by the Federal authorities. In Canada it is somewhat different. The British North America Act assigns certain things specifically to the Provinces and other things to the Federal authorities, but those that were not assigned specifically to the Provinces were left to the central or Federal Government. I have said certain things were specifically assigned to the Provinces, perhaps they have not been so definitely and clearly assigned as some people imagine, because there was a great wrangle at Ottawa as to what particular function the Provinces had as to that very important matter of the marriage question. And I remember being at a banquet in the winter at which one of the Supreme Court Judges was present, and a member of the House, whose name I shall not mention, in the course of a very witty speech remarked that he had one ambition in life and that was to be placed on the Supreme Court Bench "for I always did hate work." The Supreme Court Judge replied neatly that if he continued, with his colleagues, to refer his political difficulties to the Supreme Court, there would be no lack of work for the Judges in the future.

There are other things that are perhaps not clearly defined. There has been a demand for a Federal Department of Health, and here again there is a certain amount of indecision. Again, it was laid down in our Constitution that agriculture primarily belonged to the Provinces because it was recognized that this was an occupation and industry that must be carried on under the immediate supervision and with the help of the Provincial authorities. The framers of the Constitution also put in a clause whereby agriculture seemed to be, to a large extent, under the care of the Federal Government and there was a clause put in to this effect, that "Whenever agricultural legislation is passed by any of the Provinces that is repugnant to the Federal Legislation, then the Federal Legislation must govern," and after all, perhaps this was wise, because there must be established a reasonable degree of Home Rule and there should be no overlapping. The true principle laid down by the framers of that Constitution was that agriculture in the main should be carried on, fostered and developed by the Provinces, and that anything the Federal Government did, should be done with the hearty co-operation of the Provinces and with the idea of achieving, by joint work, a nobler fulfillment and a nobler harvest than we can achieve by isolated efforts.

You in Ontario have done a lot of aggressive and very wise work to promote agriculture. Recognizing this, as we do not only at Ottawa but in the far West, I want to assure you that we feel a deep concern about the betterment of the conditions of agriculture.

Last winter, I was asked by the Prime Minister to devise some way in which we could assist, in a practical way, the agriculture of Canada and put it on some better and more worthy footing. I asked an Ontario man, who is your Chairman to-night, and than whom I think there is no better qualified man in Canada

to-day, to undertake the work of touring throughout the length and breadth of Canada from the Atlantic to the Pacific for the purpose of studying agricultural conditions and to see in what way the Provinces had developed their agricultural work and in what way we were duplicating each others work, and, after getting a full grasp of the subject, to sit down by ourselves quietly, and regardless of political considerations, reason out some clear and strong way by which we could put agriculture on some higher plane than it had ever been on in our country before. That I think was the best proof we could give you of our desire to help and want to assure you that we don't intend to be derelict in our duty. We believe agriculture can be given a great impetus and we intend to give the farmers the benefit of that great research work that has been going on for the last forty years. We want to give the farmers of Canada the strongest kind of help to enable them to help themselves.

Ladies and Gentlemen, the State has been described by a great German writer as "The coldest of cold monsters," and one writer has said cynically "that whoever enters the service of the State must put his heart under lock and key." There is a tendency in State Departments to become bureaucratic, and the same writer has said that half our officials after their appointment develop symptoms of a disease which one may call "Incipient Caesarism." We must keep in mind that, in all our official acts, we must try to cultivate those simple human relationships without which official help becomes a mere waste of words. We must try to keep in touch with the heart and common life and common work of the people and enter into the spirit of their work in the same way in which they are doing it, otherwise every effort we put forth will be simply nugatory.

I want to come back to the great need of Canada to-day and of her agriculture. A large number of you are engaged in educational work. You have a great task in front of you; you have a noble duty to perform and with whatever discouragements you may meet at times, you are reminded daily of the greatness of the task and nobility of the duty. Every man has, of course, the duty first to make his particular spot of earth the most beautiful possible, and I thoroughly agree with what our friend, the previous speaker, said along that line. We are inclined in this country to make a fetish of size, and I think some of my Eastern friends accuse us of the West of specially worshipping such an idol. I know the farther you go West, the bigger the trees, the bigger the fields and the bigger the fishes, the larger our talk becomes. However, it may be fairly said that this is the overflow of a riotous optimism, and pessimistic views lead to nothing constructive. But it is well for us to remember occasionally that the finest flowers of civilization have not always sprung from big countries or big things, but from little States like Sparta, Florence and Venice, which by cultivating high standards and following high ideals gave a noble lesson to the world which we con with exceeding profit day by day even in 1912.

Your efforts and your ideals in so far as you prosecute them with zeal, will form perhaps the greatest counteracting agency to that baneful and terrible problem that confronts all countries to-day, namely the great evil of congestion in our great cities. We in Canada have not arrived at the state they have in the United States, certainly not as it is in Europe. No sound heart can be anything but appalled when it finds itself confronted with that terrible problem with its squalid drudgery and vice, and any effort that men and women can put forth will be justified if they can do something towards counteracting such a pitiful sight as is presented to every modern eye. In prosecuting the work in which you are all engaged, it is a great thing to feel that you are providing the great counteracting

force against this particular evil. The lure of the city is on every man. We see it here in the tremendous attraction of a great city like this. The causes are many; I do not want to go into them now. No man is blind to the fact that there is much that is fine, much that is stimulating in urban life, but it is absolutely true that too many of our young men go into the city seeking and hoping to find happiness, and find something very far from it. They go there to find, only too often, life more bitter, less free than in the great broad spaces from which they came, and learn not to bless it, but very often to curse the day they left the home spot upon the land. Any man or woman who can assist in making agriculture more remunerative and its environment more pleasant and desirable, is not only doing a great work for agriculture, but is doing something finer than this,—he is a nation builder in the truest and best sense of that word. There should be therefore, a strong satisfaction to every man who is engaged in the task in knowing that he will get a reward such as that. Governments come and go, workers come and go, officers and officials are placed and replaced, but everyone of us has this obvious and plain duty before him, if he calls himself by the name of come and go, officers and officials are placed and replaced, but every one of us citizen: that he should strive all his life to leave his land and his country a little more delectable place to live in than he found it. If he achieves this, even in a small measure, he has done greater things than many of those which the world stamps by the name of success at the present day.

Ladies and Gentlemen, I have to thank you for listening to me. I am afraid my remarks may have developed into sermonizing; I can only say I speak as I feel, and I assure you again that it has given me much pleasure to have this opportunity of saying a few words to you, the practical workers in Canadian Horticulture and Agriculture, and it will, in a personal capacity, give me a greater stimulus to carry on my work when I return. Let me wish for you the greatest success in the hours of your labors during this Convention and to say again, I am glad to be present with you. (Applause.)

PRESENTATION AND TESTIMONIAL TO MR. G. A. PUTNAM. SUPERINTENDENT OF INSTITUTES.

Mr. Anson Groh and Mr. H. Grose, in a few well-chosen words, referred to the efficient work being done through Mr. Putnam for the Farmers' Institutes and Farmers' Clubs, and presented him with a gold watch and fob as a mark of appreciation and recognition from these two organizations.

Mr. Putnam, in accepting the presentation, expressed deep appreciation of the action of the men who had made it possible, through their hearty co-operation and often at a sacrifice of time and effort, for the Department to do such effective work through these organizations. Departmental effort was of no avail without the support of the farmers of the Province. "Occasions such as we have in the City of Toronto this week, impress one with the importance of the work in hand and you can rest assured that what I can do will be done willingly, faithfully, and with added interest and confidence in the farmers of the Province."

Miss E. Stover, of Norwich, spoke on behalf of the Women's Institutes dealing with child welfare and other problems which affect the home life under modern conditions.

THE CHAIRMAN: The farmer divides the products of the soil into two classes, those that he wants and those that he does not want, the grain and the weeds, and the best practice recognized is that which cuts out the weeds. We have been applying the same practice to humanity. Here and there, there have been some botanical wizards who have taken some of these discarded plants, thistles and cacti, and they have proved to us that they are fit for something after all; the fact of the matter is that some of our finest fruits have been developed from what would now be considered discards. We have a lot of discards in humanity, perhaps they did not have as good a chance as you had, that may be the whole reason. There are some wizards who are beginning to find out that there is some good in these discards and they are helping them to find their proper place in the world. We have one of these wizards in this Province and he is on the platform to-night and I am going to ask the Hon. Mr. Hanna to speak to you for a few minutes. (Applause.)

ADDRESS.

HON. W. J. HANNA, PROVINCIAL SECRETARY

Mr. Chairman, Ladies and Gentlemen: In asking me to address this meeting Mr. Putnam said, "We got an idea from something you said on the platform some time ago that you were somewhat of a crank on co-operative associations, particularly among the Fruit Growers and Egg Producers." That all comes from the fact that two or three years ago I accepted an invitation to make an address on that subject, which I did and I have rued it ever since. He asks, "How it worked out." I just happen to know how it worked out in the part of the Province that I happen to know something about. It worked out in a very interesting way. It is in connection with the fruit crop of the County of Lambton. I will give you the simple facts as I have them here and you can judge as to the effect they would have in your particular county.

It is estimated that the County of Lambton produced this year 50,000 barrels of apples. Thirty-five thousand barrels of these apples have found their way to the market, or are on the way now; 15,000 barrels went to waste. Now these figures, with some others, tell a very interesting story as to the value of co-operation amongst Fruit Growers. You all know what has happened to the apple market this year. Let me tell you the prices received for applies in the County of Lambton. One small association, that sold several thousand barrels did not sell a solitary barrel of apples for less than $3.00 per barrel. Why was that? I am not going to advertize the County of Lambton, or any association in it, but it was because of the reputation that that particular association had for quality, to start with; because that association knew where to go to sell. That association produced the quality of goods and was in touch with those who wanted that class of goods, and went out and sold the apples, and to-day have the money in the bank. Four other associations sold their apples at an average price of $2.25 per barrel. The apple growers of the County of Lambton who were not in any association, failed to market, failed to get their apples in shape for market in many instances. Of those who were outside the associations, many and many a barrel has sold for between fifty cents and one dollar. Then of the 15,000 that have gone to waste, every barrel of the 15,000, practically without exception, was grown by people who were not in any association. Now I give you these simple facts and figures

by request, and regret that time will not permit to tell you of the large work which we are doing in the public institutions of the Province. Co-operation has meant a great deal to our country in the last three or four years; to no class has it meant more than to the Fruit Growers. It will mean a great deal to this Province of Ontario. I thank you, Mr. Chairman. (Applause.)

WOMEN'S INSTITUTE CONVENTION.

Held at Guild Hall, McGill St., Toronto, November 14th and 15th, 1912

MORNING SESSION.

November 14th, 1912.

Mrs. L. C. Burns, of Caledonia, occupied the chair, and the Rev. G. A Mitchell opened the meeting with prayer.

The Chairman: In looking over the audience this morning and comparing it with the first convention of the kind I attended at Guelph, I realize that we are indeed growing very rapidly. With this in mind the most important question with us to-day should be, "Are we growing in the right direction; growing to make the most of our society and its individual membership?" When the Women's Institute was first organized, its programme consisted chiefly in cooking lessons and demonstrations and exchange of recipes. Now, in addition to all that, we are striving to inform ourselves on all the important questions of the day. In order to accomplish the best results we must have some definite object before us. Of course, in a general way, we have, for is not our motto, "For Home and Country." Our chief thought should be, "How can we advance the interest of our country and make of our homes the place that God intended they should be, the most blessed spot on earth?" To accomplish this we must take up educational subjects; and when we have good papers we must have a good attendance, so that the greatest number may be benefited. How can we manage this? First, the election of officers is important. It is absolutely necessary that our leaders should have executive ability if our society is to be a success. Our meetings should start sharp on time; nothing hurts a meeting so much as to have the proceedings lag. We must be business-like in our meetings. We are receiving support from the Government and we should conduct all our proceedings along parliamentary lines. Many women are afraid of the sound of their own voice, and we should train them along these lines, so that they will not be afraid to stand up and give expression to their views on any subject that interests them. Women to-day are taking a place in the public eye as never before. In all things let us observe the golden rule, "Do unto others as ye would have them do unto you." If we criticize kindly we will have no trouble in inducing the members to take part in the proceedings. I come from a county where the Women's Institute is an unqualified success. In our branches we have about an equal number of town and country women. We attribuate our success chiefly to the fact that all our women take part. I believe that we should have a definite programme at all our meetings.

ADDRESS OF WELCOME.

Mrs. F. H. Torrington.

Madam Chairman and Members of the Women's Institutes of Ontario:

It is with much pleasure that I extend to the delegates of the Eleventh Annual Convention of the Women's Institutes of Ontario, a welcome on behalf of the citizens of Toronto. As President of the National Council of Women, of which the Women's Institutes have been for so many years a part, I feel that a peculiar honor has been conferred upon me in asking me to welcome you who are united throughout our land for the betterment of "Home and Country." It was my good fortune to attend your first meeting in Toronto, held in Convocation Hall, and I well remember what an inspiration it was to me, for then I saw a vision of the wonderful possibilities in such an aggregation of intelligent and forceful women for the upbuilding of the life of our Nation. Your motto "Home and Country" bespeaks the highest service which women can offer, and I was proud to be enrolled as a member of the Women's Institute formed in Toronto at the time of your meeting in 1910. Ever since the organization of the Women's Institutes in 1897, due chiefly to the efforts of Mrs. Hoodless, the first treasurer of the National Council of Women, a close bond has existed between the two organizations. You are to be congratulated upon the marvellous growth of the Institutes since those days of small things in 1897. To-day your membership is over 24,000 with 750 branches. What cannot such an army accomplish for the homes of Ontario? If 24,000 women decide and combine to achieve any object, it is certain they will attain it. The help of every member of the Institutes is needed in all departments of the work of the National Council, of which they also are members. But your help is especially needed at this present time for three particular objects:

First, to create and influence public opinion as to the immediate need of making proper provision for the care of the feeble-minded. You will be able to help:

(*a*) By procuring Dr. Helen MacMurchy's reports from the Parliament Buildings and circulating the information therein contained as widely as possible.

(*b*) By means of resolutions from Branches addressed to reeves, town and county councils and members of the Ontario Legislature.

(*c*) By means of personal conversation with friends and acquaintances and by securing the publication in local newspapers of interesting items regarding the matter, which come to your notice.

The National Council of Women took up this work in 1891 and cannot stop until every feeble-minded woman and child is properly cared for. After reading Dr. MacMurchy's reports, you will better understand why we feel so strongly the great need of adequate provision. At a meeting held last Friday in Toronto, at which a large number of representatives from municipalities throughout Ontario were present, the whole question of the care of the feeble-minded was thoroughly discussed and the following resolutions were passed:

"That the Legislature be memorialized to provide institutions for the care of feeble-minded in Ontario, and that municipalities of the Province be required to pay for the maintenance of their wards up to the age of twenty-one years, if necessary, after which, if unable to take care of themselves, they shall become wards of the Government.

"That, in the opinion of this Conference, the issuing of marriage licenses should be confined to a municipal officer—for instance the municipal clerk.

"That, in the opinion of this Conference, it is desirable that the Marriage Act should be amended in such a manner as would effectually prevent the marriage of mental defectives.

"That, in the event of permanent organization of this Conference, the permanent Executive be instructed to press on the Government the desirability of introducing such legislation." The hope of success depends largely on the support of the municipalities.

The *second* object for which we need your help is trying to prevent, by perpetual vigilance the circulation of obscene post cards and objectionable reading matter. Fifty thousand obscene post cards are now in circulation in this Province.

The *third* object to which I wish to refer, and for the accomplishment of which we ask your help, is to promote the formation of local councils where there are none and to unite with the local councils in the various ridings, and thus extend this influence.

Union Is Strength. A union of societies representing different elements in a community is able to accomplish what one society working alone could not hope to accomplish. You may be able to get along without the women who live in the cities, but we cannot get along without you. Our sustenance comes from the land. While we may live in the enjoyment of much that Art has provided, you have Nature, of which the highest in art is but an imitation. We city women however, are trying to do something in return for all the benefits received at your hands, in that we are earnestly seeking to provide homes for your daughters many of whom are attracted to the city by educational and industrial advantages—homes where they shall be safeguarded under pleasant surroundings. The moral religious and social life of the city will reflect itself throughout our rural communities. Again and again the truth of the saying, "As goes the City, so goes the Country," has been proven; therefore we cannot be divided in our efforts to uplift We must stand as one, whether our home is far away from the city or in the midst of its busy life. I had the pleasure a short time ago, of listening to representative men from New Ontario, who came to Toronto to petition the Legislature regarding new roads, tell of the latent riches of that country, also of its wonderful agricultural resources. As the several speakers told of the conditions in the new sections of that part of the Province, I was impressed with the fact that we owe so much to the women who stand side by side with the men in the development of a new country.

I have read that woman in the past has been, and is to-day, the greatest power for good. Who can measure the far-reaching influence of a home where purity, integrity and love prevail and from which boys and girls go forth endowed with health and with a happy outlook on life, because of the training received and the service which they have rendered to others in the home? Service is the insurance policy for happiness. It matters little how many serve us, it matters greatly how many we serve. Service is Divine.

The Women's Institutes may prove a great factor in solving the so-called domestic problem. What a pity that false standards regarding those who serve in our homes should cause so much perplexity. Why should those who serve in this capacity be discriminated against, socially or in educational institutions? We read of Labor Colleges in England: Why not have Labor Schools or Colleges in Canada, where those who are the very backbone of national and home life may be trained, not only in household science, but in mind, soul and body? Then there

will be some hope of a higher standard of domestic service. Surely it is the noblest of all work for women, making and keeping a home.

Allow me to congratulate you upon your programme for these meetings. It is most interesting.

I note explanations re "Electrical Household Appliances," "Model School House and Gardens." It looks as though in the future we shall ask that some of the advantages of the country be extended to the city.

"Child Welfare"—Ah, this is the crux of the national life of the future. Influence your communities so that money spent for their betterment, whether it be in medical inspection or any other reformative measure affecting health and morals, shall be held to be the best possible investment. What of all our material prosperity, if we fail to keep up the standard of our people? On behalf of sister organizations of women workers, I welcome you, and in their name and from my heart wish you successful and profitable meetings, which will leave their influence on the life of our city and upon the communities which you represent.

REPLY TO ADDRESS OF WELCOME

Miss M. V. Powell, Whitby.

Madam President, Mrs. Torrington and Fellow-Workers:

I am sure that, after listening to the gracious and cordial welcome accorded us as a Convention, I but voice the sentiment of every one present when I say we warmly appreciate the greetings extended to us, and surely there cannot be a worker here who does not feel a greater enrgy and biggr interest and fresh inspiration to do her best after hearing the address of welcome delivered by Mrs. Torrington.

As we look back over the work of the Institute since its inception, we are gratified to know the advance which has characterized every step of the way. In the days of our infancy some doubt may have been entertained as to whether, or not, we could sustain life, but we are far beyond these doubts to-day, and we feel that our growth has been strong, vigorous and helpful. This morning we stand upon the heights and the future is hopeful and full of possibilities for us to reach out and grasp. We have grown in these few years to occupy a place of influence. We have developed into women of thought and action and our faculties have been permitted to display themselves in us as intelligent human beings and not mere household machines which are constantly on the grind and incapable of thought or of reason. Our scope is growing wider and wider, like the ripple on the water from a pebble. This is as it should be. The Institute has been and is a medium through which the doors of conventionality have been thrown open and every woman may meet her neighbors in friendly, social intercourse, because of their mutual interest in the greatest factor in existence, the home. Home in one form or the other stands as the one great object in life. It stands at the end of every day's labor and it gives to our nature its first direction onward and upward. Much of a man's energy and success, as well as his happiness, depends upon the character of his home. It not only furnishes a large share of the environment of the child, but it exerts a powerful, if not a decisive influence on most lives. Our lives abroad are but a reflex of what they are at home and what we are there so we will be abroad. Every young woman should form an ideal of a home, not the ideal of the place, but the character of the home; it is the spirit

which makes home. If love reigns not there, if peace is not a dweller there, if charity is not of the household, if contentment is not an inmate there, then the home is not complete. It is primarily the homes of the community which determine its physical health and moral character. Then as we train the children to face responsibility as citizens, it must be the family which furnishes the highest ideal of humanity. The family remains the most sacred, durable and potent factor in existence. It is the greatest of human institutions and through the home must come improvement of society. Great as is the power of bonds and gold, mighty the influence of institutions and customs, the greatest force to-day is the presence of good men and women. To us, as the home-makers of Ontario, is given a great responsibility. It is given to us to mould the characters of the future. The child of to-morrow will be better understood as an individual. For him new standards will be established and his education will be devoted to the development of his best self. It will be discovered what he is fit for and we will realize that there are different types of children, and that these children require different handling in order that they may develop their own perfections. Education which takes no account of the health of the child must fail. Health is fundamental to environment and to development. As a rule, a child's receptive and retentive faculties are in direct proportion to his physical condition. The time is approaching when the family physician will be the hygienic adviser to parents, instead of the healer of disease. That time will be when parents and teachers realize that they are students of child nature and the individual children under their care. It will be the time when each child will be carefully observed, as is the animal world to-day, when there will be a science of education and a science of parenthood, and every child will have such care and such study as will develop his full status. Can we hope to do our best if we haven't some method or system? In our household management we require some system or plan if we would have the best results. We believe the best results will be secured only when we have scientific study in our organization. Last of all, we believe that the home is the pivot upon which the success of our nation depends, because it is the pivot upon which child nature, and child welfare hinges, and we believe that the ideal function of the home is to provide for the children growing up in it, a place where they can always look for sympathy and encouragement to do their best. Let us grasp the great possibilities of our work and let us bend our thought and energy to the fulfilment of our motto, for the betterment of our community life and for the uplift of our homes. In this endeavor we must not forget the religious and moral duty. Let our course be honest and straightforward, that we may inspire in others a better effort. She who sows for her higher nature will reap that which will make her an honest, noble, rich-toned woman. Let us not forget our duty to our country, this glorious land of liberty. We cannot hope to pay the debt on us of generations past. The generations to come hold us responsible for our sacred trust. Our fathers from behind admonish us, posterity cries out to us from the bosom of the future. The whole world conjures us to act wisely and faithfully in the relation we sustain. I repeat we cannot hope to pay the debt which is upon us, but by the cultivation of every good principle, we may hope to enjoy a blessing in our day and leave it unimpaired to those who follow. Our late beloved Queen Victoria leaves us an example indeed, and affords us an object lesson, such as we have never had before, as to the possibilities of a woman combining public and political life with the duties of a mother. The girls and young women have largely the making of our future. We cannot better fit them for the duties of home makers than by taking advantage of the means at our disposal through the Women's Institutes and give

them a scientific training as home makers. We may then rest assured that the success of our nation is secure.

In conclusion, let me say to Mrs. Torrington, for the hearty welcome extended to us, "Thank you." (Applause.)

ANNUAL REPORT.

GEO. A. PUTNAM, SUPERINTENDENT.

Madam Chairman and Ladies: Another year of effort has been crowned by growth and development. Many new societies have been formed and gratifying vigor, resourcefulness and earnestness have been shown by old organizations. New avenues of effort and new lines of work promise well, while old lines have been extended, developed and perfected; so we can unhesitatingly report that success has attended the efforts of our Women's Institutes during 1911-12. The Institutes continue to stand for mutual helpfulness among the women of the country, with a keen desire on the part of all to assist in making brighter and better the everyday life of the home-maker and those dependent upon her. The Institutes have interpreted the spirit of human helpfulness better probably than any other organization, and the beating of the heart of sisterly kindliness is brought into true fellowship and co-operation for accomplishment in our Institutes. We are impressed with the far reaching effect of your efforts when we remember that the women hold in their hands the very hope of the nation. Your responsibilities are great. Do not let the light of high resolve become dimmed.

The men and women of our *country districts* have always shown strength and vigor of body, mind, and character. The changing social and industrial conditions have attracted an undue proportion of boys and girls, men and women, from our rural districts, to the centres of population, and if a healthful balance is to be maintained between our rural and urban population, and if our national life is to continue to be vigorous, our best efforts must be put forth to make conditions of living and opportunities for self-improvement in the rural districts such as will appeal to the brightest and best of our young men and women. We must keep a goodly proportion of these on the land if the rural districts are to continue to be the strength of the nation.

The betterment of rural conditions is a matter of concern, not only to the people of the rural districts but is worthy of the very best thought of all who have the stability of the nation at heart. In a land which depends largely upon agriculture for its prosperity, the problems of the farmer and the prosperity of the rural communities must receive the careful and earnest consideration of our statesmen. Those privileges and advantages which are enjoyed in the centres of population must, so far as possible, be given to the rural districts. We do not want the moving picture show, the low play, or the professional ball teams transplanted to the country, but we do want wholesome amusements, profitable entertainment, libraries, telephones, cheap power and good roads. These should be a part of our rural equipment.

The Women's Institutes have shown by their accomplishments that they have the initiative to do much to improve home and neighborhood conditions. We recognize in them a still greater power as a means through which most effective work can be done along many lines. Societies and departments which have the

direction of "Public Health," "Social Reform," "Itinerant Teaching," etc., will find in the Institutes a most effective medium through which to come in close contact with the best of our rural population.

Accomplishment along most lines has been the result of the effort of only half our available forces. What may we expect when men and women who share equally in social, educational and economic advantages support and assist each other in those efforts which have the avowed object of helping the individual, elevating the family and strengthening the community life.

The women of our Institutes who are living in the home, working in the home and doing their part well as helpmates are acquiring a world-wide outlook. May we remind you that the effectiveness of a woman's outlook along educational health, social improvement, and other lines will depend upon her being a *woman* not a man.

Efficiency as a *woman* commands the respect of every worth-while woman and the manly man. The woman who has shown ability in the management of her own house, who has trained and educated her family well, is the woman who will be influential in wisely settling those questions in which women are concerned.

In our Institute work we wish to deal with realities. We must be practical if we are to be successful and appeal to the people most worth while. That which is the daily work and concern of the adult woman is most worth emphasizing in our Women's Institutes. The mother with a growing family values knowledge in dietetics and hygiene more than ability to paint, while the capable direction of household work is of greater value than music to the home-maker. Have both the practical knowledge and the accomplishments, if possible—the practical first however. So-called accomplishments will come as a natural result of efficiency which has its reward in increased wealth and leisure.

We represent the largest single organization, or shall we say profession, in the nation. At least one person in each household devotes her time to directing and performing those numerous duties connected with efficient homemaking, and others in the household are more or less employed in caring for the family. What other industry or profession is represented in more than half our homes? What a multitude and a force you represent. Although your numbers are so large and the work important, is it not strange that so little in our educational system has had a direct bearing upon the duties and responsibilities which come to women, I take it that the province of the Institute is to work for and encourage instruction, both in the schools and outside along home economic lines, in the broadest sense of that term. While the women of the Institute desire that domestic science be introduced in our rural public schools, and they can be a strong factor in securing such an advantage, we, as an organization, are all the more concerned in giving instruction in household economy to the grown-ups, the women who are face to face with the problems of home-making. Towards this end we have made a promising start in demonstration-lecture work, embracing cooking and sewing, and of which you will hear more during the progress of the convention. The course in home nursing has been offered to the Institutes, but has not been chosen in preference to the other lines offered, although it has been a subject of general interest in our regular series of Institute meetings from time to time. While we will be able during the present Institute year to serve about fifty organizations in our demonstration lecture work, we see no reason why this feature should not be extended so that practically all the Institutes throughout the province will within the next few years have the advantage of this form of instruction.

The exchange at the Institute meetings of ideas, suggestions and information gained from practical experience is one of the most interesting and profitable features of our work. You cannot do better than to continue to emphasize this method of instruction. The women who are *doing things* successfully are in a position to be of assistance in some way to other women. Do not, however, underestimate the value of instruction from those who have had the advantage of college training, which embraces information gathered through the practical experience and scientific training of capable people working under varying conditions. The practical woman probably excels the purely scientific in some respects, especially in performing the work in the farm home. Let us remember that each has something to learn from the other.

We should discuss the education of the farm woman with the same degree of thoroughness as we have dealt with the education of the farm man, and the training and education of the girl in the country place should receive equal attention with that of the boy. Our educational systems fail largely in fitting the boys and girls for the work, realities and responsibilities of later life. When the women of the country ask for instruction bearing more directly upon the activities of womanhood, our systems of education will be adjusted accordingly. When the women fully appreciate the true worth of a more practical training along vocational lines in our schools, and make their wants known so soon will the matter be wisely dealt with.

There is a great fund of information of vital importance to the welfare of the nation, but which is not the general property of the people until a means is provided for taking the good news to them. There is no other medium than the Institute through which information bearing upon social conditions, educational matters and health topics can be taken so effectively to the people of the province. The Association for the Preventation and Cure of Tuberculosis, the Department for Neglected and Dependent Children, Public Health problems and Social Reform questions have been given effective publicity through the Institute, and it will continue to be a most fruitful field for the education of the public; for when we get the attention and support of the mother, we can depend upon her to see that information worth while is passed on to the other members of the household.

I have been asked, "Will the Institute not draw the women away from their homes and cause them to become dissatisfied with their lot?" The motherly woman, and that is the kind who has been attracted by the Women's Institute, has been strengthened in those qualities which characterize ideal womanhood. Our Women's Institute members love their homes and appreciate their lot all the more because they have come to learn the relative importance of the homestead over which they reign and the dignity of the work which they perform and direct. Meeting together once a month upon a common ground for the consideration of those things of greatest interest to women, is one of the strongest forces in making for the stability of the home.

"It would be unwise to attempt to fully classify at this time the various activities in our Women's Institute work. We shall, however, outline a few features which are worthy of special mention." Under the general heading of Public Health, the speaker made special mention of the new Medical Health Act enlarged upon elsewhere in this report; of medical school inspection, which has been receiving some attention from the Institutes in a few of the rural districts of the province, as well as by the school officials in some of our cities; and of the care of the sick by the Institute members, some organizations having appointed committees to look after the sick and needy of the community.

"We heard a great deal last night as to the value of our crops, but the most valuable asset we have in Ontario is the boys and girls, and this is the one question that demands the most careful study and consideration of our women. Child welfare is at the very foundation of national prosperity and the perpetuity of the race. We agree with our lecturers and officers that all phases of this subject cannot be emphasized too strongly by the Institute.

Food values—always a subject of interest and of great value to the Institute members—continue to receive their due proportion of attention in the regular work of the Institutes, and will, no doubt, form the basis for the majority of our demonstration-lecture courses.

The social advantages of the Institute, especially in the newer and more remote sections of the province cannot be overestimated. The Institute affords a common meeting ground for all denominations and nationalities for the discussion of topics of interest and vital importance to the whole community. The civic improvement activities of the Institute include establishment of rest rooms, meeting places for boys and girls, new halls, churches and halls remodelled, lighting the streets, establishment of parks, improving sanitary conditions of schools, cleaning rubbish from streets and lanes, putting down of walks, planting of shrubbery and trees on the streets, installation of public baths, encouraging the beautifying of private grounds, etc. Every Institute should ask itself "What can we do of a public character for the betterment of our own community?"

The Institutes are receiving from the Department of Education, travelling libraries in increasing numbers from year to year. In addition they are assisting and encouraging the establishment of local libraries. In one small Institute magazines to the value of $32.00 have been ordered for the members. The Women's Institutes are co-operating with the Department of Education and Agriculture in establishing school gardens and holding school fall fairs.

The officers generally are appreciating the necessity of making the work of the Institute attractive to the young people. Special days are set apart for the girls of the neighborhood. They are asked to furnish the musical or entertainment part of the program, while addresses and papers of special interest to the young people are given.

While the Department of Agriculture is planning to increase the number of demonstration-lectures, we would advise the Institute to encourage their own members to give demonstrations along lines in which they are known to be proficient. Every locality has some members who can, to the great advantage of the whole community, give demonstrations in various lines of household activity.

We have no time to enlarge upon the holding of local conventions, interchange of programmes, special campaigns for increase of membership, and many other topics which will be brought to your attention in the addresses, discussions and question drawer which are to follow.

We wish to congratulate you on the businesslike methods which now characterize the Institute work, not only in the keeping of your records and reporting to the department, but also in the conduct of your regular monthly meetings. The Institutes have been a forceful educator in this respect.

It is said that women can attain almost any object for which they strive. This is evidently true in so far as the raising of money is concerned. A great variety of effort has characterized your activities in this respect, with the result that a majority of the Institutes are in a thriving condition financially. May we remind you that the Institute is not merely a money-making organization and should certainly not be

considered as a savings bank. While it is well to secure all the funds possible, it is still more desirable that a wise expenditure in the interests of the localities concerned be directed by the officers and members.

The farm is the economic unit, and the home is the social unit of our rural districts. If the agriculture of the province is to be a success, the individual farmer must be a success, and if the social life of the community is to be on a high level, the individual home must be an example. You as home-makers have a large part to play in re-directing country life and in maintaining a strong rural civilization. You are the makers and re-directors of ideals for your boys and girls and your ability to make your home more to the boy and girl than any other place on earth will have much to do in keeping the brightest and best in the country districts.

The highest ideals of womanhood are finding expression in tangible action in the Women's Institutes, and we predict in the light of what has already been accomplished that the Women's Institutes will from year to year become a greater and still greater factor in the uplift of home and country.

GREETINGS FROM BRITISH COLUMBIA.

Mrs. A. T. Watts.

Madam Chairman, Mr. Putnam and Members of the Women's Institutes for Ontario: I had some intention of dilating on the work of the wets, but the remarks of the Minister of Agriculture last night have quite made me afraid to say anything which would be at all in the nature of glorifying the work. I may say that it would be hard to overestimate the west. Later on I hope to tell you something of the work, now I merely wish to convey to you, which I do with great pleasure, the greetings of the Women's Institutes of British Columbia and the official hope of the Deputy Minister of Agriculture that there may be a very close and warm spirit of co-operation between the pioneer Province of Ontario and the far west, where the work is spreading with very great advantage. (Applause.)

REPORTS FROM DISTRICT AND BRANCH INSTITUTES.

Miss A. J. Coates, Thamesville.

Madam Chairman and Ladies: I have been asked to speak on the work of East Kent, making special mention of the Children's Fair held at Kent Bridge. We have nine branches with a membership of 260, and we have an increase of about 40 for last year. The district president and secretary visit each branch once a year and explain the work, try to interest the members in the work, and show them the value of it. One of our branches had a concert of local talent, from which it raised $55 and they donated $35 to the local library in the village. Another branch gave a Hallowe'en party and devoted the proceeds to a fund for improving the two cemeteries in the neighborhood, which had fallen into a very lamentable condition, and they succeeded in arousing the interest of the whole neighborhood in the work.

Another Institute gave a series of concerts and, although they did not make any money, because they hired the best talent, yet they felt that they had done good

work and better than would have been done by securing inferior talent. Another Institute engaged in a competition for a local library which was being donated by a merchant in one of the towns. Unfortunately they did not get it. Another Institute gave a supper and from the proceeds it has given ten dollars to the new tuberculosis hospital for children being opened in Toronto, and is considering devoting the balance towards securing a covered drinking fountain for the village. Another activity which I would mention is the Kent Bridge Fair. Some months before the fair is to be held a special committee is appointed by the Institute, which is called the fair board, and consists of a president, vice-president, secretary and several directors. The directors convass the neighborhood for donations for the prize list and after they have an idea of how much money will be available they make out the prize list. Prizes are awarded for garden products of various kinds, for weed and insect collections, for boxes of flowers, for drawing, writing and painting. All these prizes, with the exception of a few for fancy work, are restricted to children under 18; from 10 to 15 for some and 10 to 12 for others. The children of Institute members are allowed to compete free of charge; for other children an entry fee of ten cents is charged. When the prize list is printed some of the directors interview the school trustees and teachers and ask them to grant a holiday on the day of the fair. This year the fair was held on the afternoon preceding the East Kent Teachers' Association meeting. The fair is held in the hall at Kent Bridge, which is kindly loaned by Mr. Geo. Langford. The hall is tastefully decorated with bunting and flags and the Institute motto is prominently displayed. All exhibits are required to be at the hall by ten o'clock in the morning, when they are arranged for the judges, who begin their work about one in the afternoon. The presidents and secretaries of the branches in the district are invited to act as judges. The fair opens at 2 o'clock and all children are admitted free. A charge of 10 or 15 cents is made for adults. This year we had a curio exhibit, at which all the old heirlooms of the district were exhibtied. About 4 o'clock, after the exhibits have been thoroughly examined, the crowd adjourn to a field in the rear of the hall, where novelty races are given. With the proceeds of the fair the Institute have been able to give ten dollars to the new Children's Shelter opened at Chatham and also to devote some money towards the purchase of a piano and they expect to be able to rent the piano for concerts and other amusements in the village.

One of our great difficulties in the district is in having the meetings opened on time. One reason for this is that our presidents are timid and afraid of being considered eccentric if they insist on beginning on time.

We find that the insertion of an advertisement in the local newspaper a week before the meeting is a great help in getting the members to come out and attend the meeting.

Another difficulty is the procuring of a good programme, but a good programme committee will help overcome this difficulty.

I would like to say a word about the good our Institutes have done. First they have brought together people who have never met before. Second, they have given a new dignity to housework. Third, they have promoted the interest of our members in their work and in other work than housework, and fourth, they are developing in our members the ability to think and speak for themselves. (Applause.)

Mrs. B. J. Long, North Grey.

Our district, being one of the first organized Institutes should be able to give a report away beyond the ordinary. I am sorry we cannot tell you anything startling. Let me state this fact that the district officers who were elected fourteen years ago, have not wearied in well doing, are just as enthusiastic as ever, willing to give assistance to those, who of later years have assumed the responsibility. Every officer and most of the members realize that the Women's Institute is worth while and, if managed rightly, will prove a tremendous power for good. We have also found that a systematic arrangement of topics for the year a great inducement to the members to attend the meetings. As each member is furnished with a programme they know what is to be expected. The local press prints notices of our meetings also. The roll call is helpful as it breaks the formality of the meeting and serves as a means of getting all members to express their views on the topic or other subjects.

For some short time past a number of our branches felt that some scheme of definite work should be taken up where all could centre their interests, thereby keeping up the interest. Therefore, the results have been that charitable work is taken up, such as furnishing wards in hospital or giving contributions to the Sick Children's Hospital, Toronto, interesting themselves in fall fairs by offering prizes to young girls for cooking. Brookholm renovated the skating rink for their school, thus securing the interests of the young people.

Our district is interested in medical inspection of schools. We especially enjoyed Dr. Edna Guest's address upon this subject at our annual meeting in June. At said annual meeting Mrs. Airth of Chatsworth brought before the meeting the following resolution: "Resolved, that we, the women of the District of North Grey in Convention to-day, do enter a protest against the gross carelessness of the doctors, health officers and clerks (whose duty it is to report and quarantine contagions) in permitting the spread of contagious diseases, especially in the last epidemic of measles which visited the County of Grey, where over 50 children in the City of Owen Sound and vicinity lost their lives. We do protest against paying men to do work and never having it done, until too late, a case of locking the stable when the horse is stolen. We would ask that doctors, health officers and town clerks be diligent in future in guarding the public health." This was signed by 150 persons, thus showing that at least some of our women are awake to these matters. Three new branches were added last January under the supervision of Mrs. Parsons of Forest, and all are flourishing, adding to our roll over 100 new members.

HYDRO-ELECTRIC DEMONSTRATION BY MR. CASE.

Mr. Putnam has asked me to say a few words regarding our electric display at the rear of the hall. I presume most of you are familiar with the work of the Hydro-Electric Commission of the Province of Ontario. Our exhibit is one of many which we have held this fall in various parts of the province. The collection we have here includes a collection of flat-irons, various types of coffee percolators, toasters and chafing dishes, foot-warmers, washing machines, and vacuum cleaners and a small oven. We also have a sewing machine motor that may be used for other purposes, such as pumping or grinding. These appliances may be plugged into the

ordinary electric light fixture and used in any part of the house. We shall be glad to answer any questions with reference to this apparatus and give a full explanation of their use and advantage.

Meeting adjourned.

AFTERNOON SESSION.

Thursday November 14th, 1912.

Mrs. H. W. Parsons, Forest, Ont., in the chair.

CHAIRMAN'S ADDRESS.

Mr. Superintendent and Ladies: I have not yet found out why it has fallen to my good fortune to preside at such an important meeting as this one this afternoon. You will see that the programme is just full of good things. I do not think it is at all necessary for me to say anything. The first thing on our programme that we are going to ask for is the report of the unveiling of the monument to Mrs. Hoodless. We have on the platform Mrs. McNeily, who was the first treasurer of the first branch of the Women's Institute at Stoney Creek. Mrs. McNeily has been convenor of that committee and any of you who have had anything to do with the committee will know that it was very largely due to the perseverance of Mrs. McNeily that the work in hand was brought to a successful end a little while ago.

REPORT OF COMMITTEE ON HOODLESS MEMORIAL.

Mrs. J. H. McNeily: Before reading my report I would like to read a letter I received from Mr. Hoodless: "Will you be good enough to convey the thanks of myself and family to the members of the committee and also to the Women's Institutes for the splendid tribute of appreciation to my late wife, Adelaide Hoodless. The portrait was beautiful in execution, unveiled and presented in a most dignified and touching manner, which was greatly appreciated and was, indeed, a great tribute worthy of those who presented it and a testimony fitted to the noble woman to whom it was made. With sincere regards,

"Yours truly, John Hoodless."

As convenor of the Hoodless Memorial Committee, I beg leave to make the following report:

The total amount collected by the committee was $530.00. Portrait, $400.00; other expenses, $26.29; balance, including interest, $120.00.

The portrait was presented and unveiled in the presence of a large assembly of delegates of the Women's Institutes and other invited guests, in the Assembly Hall of Macdonald Institute, Guelph, on October 3rd, 1912. The address was read by Mrs. E. D. Smith, of Winona, who was the first president of the first Women's Institute in Ontario.

Mr. Creelman received the portrait on behalf of Macdonald Institute, and gave a most fitting and eloquent address, after which the guests were most agreeably entertained by the college.

As to the balance of cash on hand ($120.00), the committee has consulted the Institute authorities and agreed that it might be judiciously expended in a picture, or pictures, to assist in furnishing the walls of the pupils' reading room, which is being fitted up as a setting for the Hoodless portrait.

This report was accepted by a hearty vote of thanks.

Mrs. J. H. McNeily, *Convenor.*

Madam Chairman: I am sure you have heard the reports of Mrs. McNeily with feelings of deep satisfaction. I feel that this committee should have a vote of thanks from this Convention. This committee has certainly worked well and it is going to be a lasting memorial to our credit for the one who started our work in the beginning and who was such a force all through the way. (Vote of thanks carried with applause.)

REPORT OF COMMITTEE ON CHILD WELFARE.

Miss A. M. Hotson, Parkhill.

Madam Chairman and Fellow-Students:

It was with a full realization of the serious study required to solve the problem of rural civilization and the necessity for recognizing the child as the most valuable product of rural life that the Child Welfare Committee was appointed at the last convention. It gives me very great pleasure to give you the report of their first meeting. The committee met on the 29th of August at the Parliament Buildings, with Mr. Putnam in the chair. The following are the suggestions which were made at that meeting:

First: That one session of this Convention be devoted to Child Welfare work. That a representative, if possible, be sent to the first Canadian Child Welfare exhibit to be held at Montreal this fall, and that a report be given at this Convention. That, if possible, part of the exhibit be secured for this Convention. (We have an exhibit down stairs which is well worth while investigating.) That the report of the Annual Convention be arranged to give as clear a picture as possible of what the Branch Institutes and our Provincial Department are doing for the care of children. Such reports include, of course, domestic science, sewing classes, boys' and girls' fairs and school gardens and supervised playgrounds, and the work for rural medical inspection. It was suggested that special conferences be held for district and branch officers, for young women, and especially for mothers. That an exhibit be held of labor-saving devices for the home. Suggestions have been asked for systematic reading and we have suggested three: First, that through the Home Journal occasional suggestions of good books be given. Second, that Institute workers should study the needs of children. The Belleville Institute has taken up the study of a book called "The Child," by Dr. Tanner, a very good book for a group of mothers who wish to do some special study. Third, for any reading clubs who wish to have a good advanced reading course there is nothing so good as the Chatauqua reading course, which comprises four books each year for four years. A certificate is granted at the end of each year and a diploma at the end of the four.

The general movement for child welfare has grown very rapidly during the past few years. Many of the best men and women, statesmen, business men, as well as parents have devoted themselves to it. Beginning with New York and

Chicago, exhibits have been held that show the work of the home, the school, the Church and other organizations which are trying to make strong children. The work has already resulted in the establishment by the United States Government of a new Bureau for Children. It has an efficient staff and an initial grant of $50.000 for carrying on the work. The special work of the Bureau is to investigate and report on all matters pertaining to children and child life among all classes of people. A special Librarian has been appointed to gather together all available information and literature on child problems and to put it in shape for immediate use. The Bureau proposes to be a source of information on all legislation touching children. They have no administrative power; that is left to each State. They intend to at once start an original investigation on infant mortality. The Government of Canada has splendid buildings and preserves for the collection and cultivation of fish. They have an experimental farm for the care and welfare of the dairy cow and horses and pigs. Why is it that in our National Government we have no department for the welfare of the child? Meanwhile infant mortality continues at a very high rate and there is a rapid increase of the feeble-minded. Recently the Mayor of an Ontario City, who is an ex-chairman of the Board of Education, stated that there were no feeble-minded children in the City. A prominent medical man and Chairman of the Board of Health contradicted him and stated that there were between 200 and 300. Who knows? The strength of any community and the strength of the Nation rests in its children and the nation must be judged by the care it takes of them.

Under the wonderful sympathetic direction of our superintendent, the Women's Institutes have grown to be a powerful organization, wisely co-operating with the Boards of Education the Boards of Trade and Town Councils, Farmer's Clubs Farmer's Institutes. The women have one hand on the home and the other on the State. The meeting last night was a big step forward in uniting in one conference all rural institutes and joining the home markets with the State. It is the duty equally of men and women to see that the Home and the School and the Church and the State each do their special work to stock up the Country with efficient and healthy men and women. On the whole we have no children of better ancestors than our rural Ontario Children. There is no better soil for them to grow up on. Thinking men and women will not rest until every child in the most remote rural communities is well fed, well clothed and housed, and wrapped up in a wealth of love which gives to every child a happy active childhood, which is the background of a full rich and useful adult life.

It has been my pleasure to know many of the institutes who have representatives here to-day. You are strong in feeling and we want you to turn that into action and I move that we ask the Government to support the resolution that was read by Mrs. Torrington as to the feeble minded. "That the Legislature be memorialized to provide institutions for the care of the feeble-minded in Ontario, and that municipalities of the Province be required to pay for the maintenance of their wards up to the age of twenty-one years, if necessary, after which, if unable to take care of themselves, they shall become wards of the Government."

Mrs. Graham: It gives me greater pleasure than I can express to second the motion. We have come into our kingdom for something great and it is here at our hands waiting for us to take steps forward. (Motion carried by a standing vote).

The Chairman: Miss Hotson's report has been full of suggestions. I might add to it a suggestion as to two or three other books that I have found valuable. One is "The Training of the Twig." another is "Unfolding of Personality"

by Thistleton Mark. It can be got for 25 cents and the third is "Dawn in Character" by E. M. Mumford, and then there is a book for older girls called "The Girl in her Teens" This is such a trying time for the mother to know how to deal with the young girl in her home and how to direct her in her studies. I am sure we feel grateful to Miss Hotson and this committee for having given us such a splendid report.

The next item on our programme is an address by Dr. Helen McMurchy. And I know that we are all just waiting with eagerness to take in every word that Dr. McMurchy will say to us this afternoon.

EXPLANATIONS Re CHILD WELFARE EXHIBIT.

By Dr. Helen McMurchy.

Madam President and Ladies of the Women's Institutes of the Province of Ontario: It is with great interest that I attend these annual gatherings, I do not think there is any meeting during the year that I enjoy more.

The report just read was such an interesting one that I am going to beg the favor of a minute or two to allude to it. I cannot remain silent when anybody speaks about the feeble minded. It was with a thrill of interest that I heard Miss Hotson bring the subject up. The feeble minded will be cared for now that the Women's Institutes have taken that matter up. (Applause.) I know perfectly well that you will go back to the places that you call home and that you won't forget that sometime before the next meeting of the Legislature you will do something towards carrying out that scheme which has just been passed. I would like to call your attention to the fact that there are very few families in Ontario that carry the strain of feeble mindedness. That is one reason why the subject is so important. We do not know where feeble mindedness came from, but we do know that the number of families that carry the strain is small and that it is hereditary. If we would just make up our minds to take care of these few families we would be able to wipe out the trouble. I heard a lady say about it, "There are only three families in our township who are feeble-minded, but then they have a good many children." That is the point. It does not do to decide these things by guess work. We want in scientific work at least one hundred cases and that is not very many; no scientist will pay the least attention to you unless you have one hundred cases. They held an investigation in England and they took one hundred perfectly normal families, where there was no feeble-mindedness and where the children got on well and then they took one hundred families where there was at least one feeble-minded child in attendance at the schools and they counted up the exact number of children in each family, and the result was that the average number of children, where there was no feeble-minded child, was four to the family. The average number where there is one or more feeble-minded child in the family was seven. Now remember that does not mean anything more than just exactly that statement. There are instances in Ontario where the number is far more than seven and where there has been no marriage. There is no doubt that in bringing this subject to the attention of public men you have done a good and patriotic work for your country.

I am to have the pleasure of speaking to you for a few moments about the Child Welfare Exhibit. There is one thing about the Women's Institute that commends it to us all and that is: It is strictly up-to-date. You are never behind the

times. The idea of having a Child Welfare Exhibit is quite new. The first was at New York on January 18th to February 12th, 1911. So you see it really is not a year old yet. It took three years to prepare for that exhibit. That exhibit cost $100,000. It was organized by some of the most influential people of New York. The second exhibit took place in Chicago. It was the New York exhibit moved to Chicago. It was moved almost bodily through the generosity of Mrs. McCormick, and it cost $50,000 additional to put it in Chicago. Then there were two others in American cities during the year. The Chicago book is extremely interesting and if you write to the Secretary, Child Welfare Exhibit, in Chicago, and sent ten cents, you will get a copy. During the present year, from October 8th to 22nd, there was a Child Welfare Exhibit at Montreal. The best thing about a Child Welfare Exhibit is the audience; that is always the best thing about any meeting. It is not the subject nor the presiding officer—it is the audience. There were two little boys who stopped at the children's rest room where the nurses were taking care of the babies and cuddling them and feeding them and arranging their clothes and attending to their wants, and one of the small boys said, "There, that is what I call Child Welfare Exhibit, that is where they are doing it." It is intended to show exactly what is going on in the city and in the country about children, what is needed and what ought to be done. What you ought to do, that is interesting. Here is the Montreal catalogue; you will see that there is the figure of a woman on the cover, a French-Canadian woman, Jeanne Mance, who is spoken of as the Pioneer Nurse in Canada. I think it would be a very popular thing for the Women's Institute to provide a rest room for babies at the next convention. You see this woman on the cover has a little Indian child in her left arm and she is washing its hands. The reason that was chosen as the shield of the Montreal exhibit was that it was intended to typify all that the women of Montreal did for the welfare of the city. There is another interesting thing about a Child Welfare Exhibit and that is that the best people in the city always take hold of it and take an interest in it. In Montreal, I am proud to tell you that Professor Adami, of McGill, a pathologist and physician of very great repute, one of the greatest in the world, put himself at the disposal of the committee and he and a Frenchman were the two presidents of the conference. The Montreal exhibit just told the truth. As you went in through a little door you found opposite to you this statement below the picture of a starving child:

"The voice of the Child cries out against you." "Last year 5,335 babies died in Montreal. Two-thirds of these deaths were preventible. What will you do to stop this waste of life?" That was the question on which the whole exhibit was founded. Why do you need a National Exhibit to bring people together who are interested in these things? So that public interest may be awakened. I haven't time to give you an idea of even one-tenth of the things that were there. It was just as if you sat down to talk over the whole question of children with the best authorities in the city, and these authorities told you exactly what they thought or knew about children. Here they had pictures and models of a good house and a bad house. The audience was the most interesting thing. Whole families came to see the exhibit. I remember one family, a mother with two children and the father, a young intelligent-looking fellow with another babe in his arms. I suppose they had no one to leave him with. They were very much interested in the exhibit. I must not take up any more of your time; I will close by reading you a few extracts from the catalogue: "If a mother with five children lacks only $10 a month to keep her home together, wherein do we help by sending the

children to institutions at a cost of $36 a month?" That is being enquired into now in several cities. Why not in Toronto?

"An investigation was made among several hundred girls working in factories. They gave in signed statements, they belonged to a type of working girl better and more cultured than the average." The result has shown that more than half these girls began to work before they were sixteen. Is that wise? One-third began to work before the age of fourteen. Is that wise? It is against the law. (I know that there are some children in Ontario that do not go to school.) They left school, one as early as nine, some at ten, eleven and twelve, and the largest number at thirteen. About half left because their work was needed by their families, the other half were forced to support themselves. The girl who goes to work merely to earn a little pin money is largely fiction; we always hear about her, but I do not know her very much. It is true that a large proportion of the girls live at home, but that does not save them very much, as they have to contribute towards the support of the family. Many of these girls did not receive more than four to six dollars per week. Now you know if one can live on that in Toronto? This exhibit cost Montreal $25,000. They got a grant from the Dominion of $10,000. That is interesting to us because we may want it here in Toronto. And I know that the Montreal people would be glad to assist; in fact, some of them asked if we would not like it. They got $5,000 from the City of Montreal people and they got quite a little from private benevolence. There is no doubt that a Child's Welfare Exhibit in Ontario would do a great deal of good. I will not detain you longer.

THE CHAIRMAN: We thank Dr. McMurchy very, very much for her talk this afternoon, and we hope that we will be able to get a grant from our Provincial Government for this work. We have our conservations of forests and one thing and another, but is there anything in this country to-day in which we have so much waste as the waste of human life. (Applause.)

We have Dr. Backus with us and I know how you are going to enjoy her talk this afternoon. She takes up one point further in "Child Welfare." We heard from Miss Hotson what we want to do, from Dr. McMurchy the necessity of doing it, and Dr. Backus will tell us how we are to do it—how we should take care of the physical necessities of the child.

THE PHYSICAL DEVELOPMENT OF THE CHILD.

DR. ANNIE BACKUS, AYLMER, ONT.

This, the Eleventh Annual Convention of the Women's Institutes of Ontario is to-day taking up a work, which perhaps will be more far reaching toward the goal of good than any former assembly of this wonderful organization. Dr. MacMurchy, in her own delightful and lucid way has explained the Child Welfare Exhibit, and we meet here to-day to give our entire thought to the welfare of the child; when we realize that in this Hall are representatives from every part of the Province we can get some idea what this may mean to the coming race if we are enabled to arrive at wise conclusions concerning the development of the child from every point of view. It has fallen to my lot to address you on the Physical Development, to discover to you, so far as lies in my power, laws that control physical growth, and as these laws are very definite and unfailing put it down to my stupidity if it is not made clear to you.

There is something about a perfect physical development, whether in the lower or (so called) higher animals, that is always a source of delight; the woman or man who does not enjoy the sight of a beautiful horse, a handsome dog, the romping lambs on the hillside, and the quiet contented cows grazing in the meadows, is an anomoly. It is the natural impulse to rejoice at the sight of health and happiness, and it is the natural impulse to be shocked by deformity and disease.

The first question the anxious mother asks concerns the physical welfare of her babe (Is it all right?), meaning is it a well-formed child; and whether it is that unknowingly humanity possesses the knowledge that rarely in a well-formed body do we find a depraved mind, for we never see the same anxiety displayed about the child's mind, and perhaps parents would rather have a little mental twist rather than a physical one.

Dr. Beard (who has made special study of this question) declared that in all the animal realm there is a general, though not unvarying, relationship existing between the brain and the body, and that no one who has ever walked observingly through an asylum for the insane, or feeble-minded, and beheld the dwarfed, misshapen, immature, or stunted forms which surround him can doubt the force of the truth embodied in this statement.

It would be neither practical nor wise to go into technical detail with the short time at hand, so we will enter at once upon the practical points of the subject.

The first consideration in the physical development of the child is the health of the parents, and of the parents' parents; for it is the physical, as well as the spiritual, sins which are visited upon the children to the third and fourth generation, and from the late investigations of Prof. Goddard and others, we find the fifth and sixth generations still paying the penalty of the ancestor's sin.

The time will come when it will be a disgrace for parents to have physically weak children, and the privilege of parenthood will only be extended to the physically and mentally fit.

We hear so much about race suicide that it really makes one fatigued, as if it were the business of every man and woman, not matter what their physical or mental condition may be, to produce offspring; now one good thing to get fixed in our minds is this,—that men and women suffering from certain diseases, are committing a crime to posterity when they undertake the responsibility of parentage; and another good thing to get fixed in our minds is that there must be protection for the feeble-minded, and such restrictions placed upon them. that that class may become extinct.

Then we see that physical development must begin even before birth, and for the most perfect development we must have mind as well as body. To be born right is the first factor in the physical development of the child.

The next thing is that the child shall be fed after nature's method by the mother, and the mother, realizing the importance of this function, should, as far as possible, avoid all anxiety of mind and over-exhaustion of body.

The first few weeks of a babe's life is spent in sleeping and eating. Perhaps that is why we refer to them as happy childhood days, certain rules are often laid down in the books regarding the hours for feeding, one good rule to observe is, make the hours as far apart as you can with comfort to the child, give the stomach time to dispose of the food between the feedings. It is not at all necessary to feed the infant every time it opens its eyes, nor is it well to poke one of those rubber abominations called comforts in the poor little mouth; thus establishing the habit so prevalent to-day of having something in the mouth at all times.

A healthy child if left to its own devices will be perfectly happy, but if taught

from the first to be tossed and jumped about, then it will insist upon these methods being carried out to the great discomfort of everyone in the house, and to its own great disadvantage.

Exercise in Infancy.

Sir William Jenner says, "a child in health delights in movements of all kinds." You all know how the little body twists itself, and the little hands reach out in no aimless manner for the little feet, even in the earliest days it shows a satisfaction in the rubbing of the back after the morning bath, and the freedom of the uncovered limbs, and as the days pass co-ordination of the muscles develop with the growing mind.

Encourage these early efforts, give the child its freedom from heavy clothing, and let it tumble about, always having abundance of fresh air and sunshine if possible; whatever may be the ventilation in the drawing room, do not fail to have the nursery well ventilated, and if, as in many cases, there is no real nursery, let the thought of the needs of the growing child be first consideration, remember it, like the growing flower, must have sunshine, and light for its proper physical development.

As time goes on the child's activity increases, it becomes impatient, tries the impossible, and keeps at it until it becomes the possible, plainly showing that the intention of nature is that the child shall overcome, and be more independent of support, soon it is walking from chair to mother in all the joyous abandon of faith that mother will catch it as it comes.

As the body grows, added demands are made for nutrition; the teeth come and tell us that other food must be supplied, the bones must be hardened, the muscles developed, the brain is growing and must be fed; now we add oatmeal with its bone-making elements, a little egg albumin, potatoes, rice, bread and butter, plain non-stimulating foods; and with it all always fresh air in abundance. Keep the child growing, well nourished and occupied with such amusements as will develop mind and body.

At the end of the fifth year the child may be sent to kindergarten for an hour or two each day, but many are not near a kindergarten, and the best kindergarten in the world is found in the country, among the things of the country.

There ought to be a law that every child should be born, and spend the first twelve years of its life in the country. There is no place in the world where physical and mental development can be so thoroughly established as in the sanitary rural home.

Soon the time comes when the child must attend school, and here we have problems to answer before we can place the growing boy or girl in the best possible surroundings for physical development. Ventilation, lighting, heating, the drinking water, drinking cups, the seating in the school, the height of the desks, these are all subjects for consideration when we study the development of the growing child.

We will have some pictures thrown on the screen later to illustrate some of the common defects in our public schools, defects that mean to the children discomfort and sometimes even deformity.

The seating in many of our schools is designed for the punishment of the child, rather than the placing of the child in such an attitude as will be for its physical welfare, as well as placing it in the best possible position to use its brain; under physical discomfort few can accomplish much mental work. We should not allow children to occupy seats too high or too low, graded seating should be

required in every school, if we are going to have the best conditions for the physical development of the growing child. Physical development is not a matter of chance, but of law; the law of inheritance decides the start in life the child shall have, the wisdom of the mother in carrying out for the child the law of natural feeding is the second point in the child's physical welfare, her knowledge later of the elements which go to make up the nourishing foods for the undeveloped child.

The laws of right feeding is the third degree in child development. Care of the body, cleanliness, normal exercises in moderation until the muscles become stronger and the bones harden is the fourth proposition.

When he child reaches its fifth year begin physical training, teach it to stand erect and to use its lungs when breathing; if this habit is established, the foundation is laid for a well set-up body. After this time children should engage in all sorts of romping, climbing, riding on horse-back, rifle practice at a mark in order that the muscles of the eyes used in accommodation may be trained and strengthened, running, vaulting, kite-flying, and the myriad of games without designation which emenate from the minds of inventive children in every generation.

The laws for development of children plays the same part with girls as with boys; this is a fact that some otherwise intelligent people do not seem to understand, the physical weakness of women so much deplored is the result of this ignorance that expects a girl to grow strong under any other conditions than the same that develops and makes strong the boy.

A sound mind in a sound body can only be developed by following certain laws, and the more we learn of the laws of inheritance the more we have it impressed in our minds that what the world must have before it can produce the best type of human beings physically and mentally, is well-developed women, and you cannot change the laws of growth and development, that which develops and makes strong the boy will make strong the girl, and fit her for a strong womanhood.

The teeth, which add or detract so much from the symmetry of the face, should receive careful attention from their first appearance, but except the cleanliness and care taught in the home this is work for the specialist.

Now we will have the pictures.

Thanking you for your patient attention and hoping we may all meet here next year again, and if not here may meet in the "other land of blissful longevity."

What causes adenoid growths? These are supposed to be chiefly among children of scrofulous parents; but many children suffer from a disease known as *Scroff* who come from perfectly healthy parents, so that there must be a cause other than heredity. The mucous membrane that lines the nose, the nasal passage and the back of the throat is very sensitive, and in the winter time and in damp seasons which we have in this climate, children get cold and they have the snuffles, and children are not particularly scrupulous about cleaning the nose. It is easier to snuffle than to blow the nose. That is a foreign substance in the nose, just as much as a pea shoved up would be, and that lies there day after day. And the child sitting in the school house, with bad ventilation and bad air, gets one cold after another and the condition goes on until these adenoid growths are produced. There should be perfect cleanliness of the nose and perfect care in the early days. If people knew more about anatomy! How simple a thing it is to pour some mild alkali antiseptic solution into a glass and snuff it up the nose and let it come out again. If they would do this, they would get rid of these disturbances in the nose and not have adenoids.

ADDRESS.

Hon. J. S. Duff, Minister of Agriculture for Ontario, Toronto.

You are engaged in a splendid work and you are representatives from different parts of this great Province. You in common with the other great bodies that are meeting this week in Toronto reminded me that you are allies. In the war that is being waged in Europe, there are the allied states against the old honorable Empire, and it seems to me that this is a very good example of the allied interests, while each, in their own way, are prosecuting the work in which they may be particularly interested.

You have come from different portions of this Province, you have come from sections of the Province where the conditions are very much different from what they are in other sections, and one of the thoughts that has impressed me and presented itself very strongly to my mind since I became a member of the Government, and it became my duty to go about from place to place in the Province, is the diversity of agriculture in Ontario—the diversity in almost everything except the style of the clothes we wear. I think you will all agree that that is true. The people in the southwestern part of the Province live under altogether different conditions—their employments, the work they do is altogether different from that of the people living in the eastern part, and so we, living within one hundred miles of the City of Toronto, are in a much different atmosphere and under different conditions than those in the far northern portions of Ontario. Now the thought that occurred to me was this: In a meeting such as this, in my judgment, the great value will come from the opportunity that is given the ladies from the different parts of the Province to discuss with others the various conditions and how the work under the management of the Institutes in one district will compare with the work in another district. If you are able to accomplish even a small portion of that sort of work, then you will be well repaid for such a magnificent convention as you have here this afternoon. It speaks volumes for the interest that is being taken in the work in which you are engaged to think that this large hall is filled with earnest, thoughtful ladies to consider the betterment of the conditions under which we live in this fair Province.

We have a great Province. I sometimes think that on the whole North American Continent, there is not anything that will compare with the Province of Ontario. (Applause.) I think it is fair to say so and I do not think it can be disputed. But of course if that is true, that means that our privileges are greater, and if our privileges are many, it means our responsibilities are great.

There was a time when the mothers of this grand old Ontario of ours had not the opportunities that you have of meeting together and discussing questions. There was a time when the mothers of this grand Province, if they wanted to come to Toronto had to walk or come on a waggon or in an ox-cart. There was a time when the mothers of this Province, spent their lives in the log cabins that were erected here and there all through the country, and if what I said with reference to the Province is true, if what I have said with reference to our conditions is true, then the responsibilities of the mothers of the present generation are very very great for the reason that I believe if there was a class of men and women that were noble in the highest sense of the word, it was the fathers and mothers, our early forefathers, who came into this Province and hewed out homes for themselves in order that their children might have better conditions than they had. We have the better conditions and we owe it to the sacrifice on the part of those grand mothers of the older days. They reared their little families —and in many cases large families—in the little log home. They sent from these

homes the men and women who not only brought glory to the fathers and mothers who reared them, but they have brought glory to this Province in almost every section of the Globe. We know that is true. I think sometimes we do not speak enough of it, and perhaps we do not appreciate enough the work of those who have gone before us. But there is a way of showing our appreciation, and I do not know that there is any better opportunity of doing it than through the medium of the work which you are capable of doing. These ladies who find they have time enough from their home duties, time enough from the circle of their own firesides to engage in Institute work and other work of this sort are fully discharging the responsibility that rests upon them, and upon us in the happy surroundings in which we have found ourselves.

I just want to say, in conclusion, that I am delighted to have this opportunity of being with you for a moment. I am glad to see the interest that is being taken in this work and I sincerely trust that every convention of this sort will have the support of the people who attend it, whether they be from the north, south, east or west of the Province, and that they may go home, not only feeling better for the trip and for the opportunity of rubbing shoulders and discussing questions with others engaged in like work, but go home enthused and fired with an ambition to do better in the future than in the past. (Applause.)

THE CHILD IN THE NORMAL HOME.

Synopsis of a Lecture Delivered by Dr. McCrimmon of McMaster University.

Dr. McCrimmon first dealt with the home, using the term "normal family" to mean that "which is so constituted as to perform efficiently the functions which Christian civilization demands of the home." "The normal child is the fruit of the normal family."

He points out the relationship which must exist between the parents if the child is to be properly trained. "According to the teaching of Jesus" he regards "husband and wife as joined together by God, and the home as a type of the Kingdom of God." He shows what the child should gain by his relationship with parents and with brothers and sisters, also the addition to society that such a properly cared-for child will be in later years. The parents, in turn, are equally blessed by the gift of a child, if they realize their responsibility to their offspring who are to be developed physically, mentally and morally.

He enlarged upon their duty in each of these lines, then proceeded to discuss the development of the *mind* of the child. A synopsis of the latter is found in the following paragraphs.

The home must safeguard the mental development of the child. During the first eight years of his life, this development should not be according to any prescribed curriculum, but should be the spontaneous outcome of his impulses, wisely directed by the parent. He will then manifest those personal characteristics which are so important for decisions respecting his future vocation. Patience must be exercised as well as a trust in the maturing powers of his nature. In contact with home surroundings, with the members of other homes and with the external world, the normal child will advance toward maturity without any urging.

He comes into this world with instinctive tendencies which are quite evident, as when he cuddles to his mother for warmth and protection. Soon curiosity,

imitation, emulation, and constructiveness manifest themselves. These are the functions which build the foundations of the future edifice of life.

The parent must see that every sense is normal—hearing, sight, etc., for through sensations and by no other medium, does the child gain its first knowledge.

In the first year, another faculty is noticeable, that of imitation. It helps him to arrive at self-consciousness, and if the example which he copies is the right kind, it enables him to form right habits and acquire high ideals. How important it is then, that the child should live in the proper environment in this formative period of his life. At every turn the parent must be careful about the objects which the child handles, the pictures he sees, the stories he hears, the actions he imitates. It is often a vain hope in the parent, to wish to see eradicated in the child, a habit which he himself continues to pursue.

The tendency to imitate is an argument for keeping the child in the home or kindergarten, until at least eight years of age, instead of sending him to the mixed school. The school should be the supplement to the home, not the home to the school. The sense activity, though it continues through life, can never mean so much as at this period. During this time the impressions sink deep and are tenaciously held. The Jesuit knew what he was talking about when he asked for the first years of life.

Patience must be exercised with respect to the child's restlessness, during the process of learning. It is only through experimenting that he gains definite knowledge of how to do things and this requires ceaseless activity and expenditure of energy. Restlessness is a sign of intellectual development, imagination an indispensable function. The nursery furnishes objects and pictures which the child can handle and examine; the sand-pile or the garden bed is one of the best of schools. Every mother knows the power of the story to enlist the attention. The activity of the child is aroused by his imagination. He acts out the scenes; his limbs and organs are at work as he attempts to master the facts. His imagination may carry him far beyond the realm of reality but such products should not be called lies. Such phases in his life need not create anxiety. As the child grows, experience limits his imagination and he becomes more self-reliant and more independent. The period from eight to twelve years of age is one of acute perception but of growing independence, an independence to be rudely disturbed by the storm of adolescence.

Children should be trained to habits of close observation, a few minutes direction each day in carefulness and quickness of perception may mean a larger world for the growing man. Time is not lost in getting deep impressions of ordinary things and forming manifold associations with them. Children may differ in powers of retentiveness but the fact has long been recognized that the secret of a good memory is to be found in the repitition of experience and in forming a multiplicity of associations around it.

The world of imagination and beauty should be kept open to the growing child. Taste and refinement in the home mean much to the plastic life. Wisely directed attention to the flowers of the garden with their delicate formations and their varied hues, to the springing grass, the glorious sunset, to the sublimity of the starry heavens, the coloring of the autumnal leaves, the whispering of the forest, the drapery of the clouds, the music of the songsters, the glory of the night, the beauty of the dawn will inculcate a love of the beautiful. The child trained to recognize the finer things of life, to sink his soul in the grandeur of creation, will not find life dressed in the hodden grey of common experience, but in the richer vesture of a diviner life.

Imagination is necessary not only in the esthetic world, but also in the world of thoughts and of ideals. The man of visions, of ideals, must be a man of imagination, but intellect and will must prevent excessive day-dreaming and castle-building.

The child, therefore, should have some tasks to perform and he should be lead to do them not through outward obedience alone, but because he realizes that they ought to be done. He should be led to choose on his own initiative, that which is right, for if he performs the act, with his heart going in another direction, the act in itself is not worth much.

The work of the home, then, is to lead the child to intelligently choose the right course of action, and to repeat that action until it becomes a habit so firmly established that it cannot be erased.

The home must lay the foundations of character. The young should be prepared for serving God and their fellows. The child must be trained to use his own will aright, because in self-consciousness and self-determination, are to be found the essentials of personality and character. The child is constantly receiving impressions for good or evil whether we wish it or not. "Earth and sky, the events of his little life, the words and acts, nay even the gestures of those about him, are all busy in the work of his education."

"Every human being undergoes this process of education, and it is not at all a question whether he is to be educated or not; but simply *how* and to *what end* he is to be educated." In this growing, impressionable child, are to be fixed the habits of life, which as Plato said, "Will give him the use of himself, for his own master." Now we begin to talk of thoughtfulness, of carefulness, of self-control, of rational conduct, of obedience, of sociability, of conscience, and of responsibility.

This after all will show the broad chasms dividing the normal and abnormal home. What good results can be expected from a home whose material equipment is so inadequate that existence is but a life and death struggle. The parents who are to achieve results so important to civilization, must be seized of their responsibility in this regard. How can one engender feelings of sympathy and gentleness, who himself deals roughly after the manner of a barbarian? How can one who cannot control himself, teach self-control to his imitative child? How can the lawless teach obedience, or the irresponsible self-control? How frequently would the rejoinder be appropriate "Thou that teachest others, teach thyself."

As the home watches the moral conduct of the child, two words rivet themselves upon our attention, conscience and responsibility. When they begin, is hard to detect. At about three years of age the concept *self* arises. With this concept comes what we call conscience; at first no doubt it is only hazy ideas of what is right and wrong that appear in the mind of the child, through obedience to the parent, and the tested consequences of experience. The child may enjoy the vision of irresponsibility, the youth may find duty rapping at the door, but the man must face the grim countenance and imperative call of responsibility.

The parent has this important object in view; to get the child's will to function aright on its own initiative and its own range of choice. The control of the passions, the effort required to perform distasteful actions, will lead to this desired result. The power of initiative is developed by the child's mastery of its toys. The constructive instinct is developed by arranging the building blocks, in forms not pictured on the chart. The command he acquires over the equipment of the nursery and the garden, may be used to gain control over the passions and ideas of the soul.

The sympathetic life of the mother, the filial relationship to the father, the love for brother and sister may lead to a wider recognition of the claims of mankind. Games and work which require co-operation, will teach the lesson of concerted action. A recognition of the brotherhood of man is one of the most needed and most essential characteristics to be acquired. The sacredness of man's personality and a respect for his rights and the duty to lift everyone to a higher plane of living by precept, example and experiment, should be taught the child. The egotism which so early in life insists on "me and mine" must be modified by unselfishness which rises from an interest in others and becomes a great force for good in the social world.

Much may be done to extend the sympathies and interests beyond the members of the family, by the care of the flowers and pet animals. The occasional traces of savagery which appear are only transient. Love of nature, vegetable and animal, is a step toward the love of men. The love of home leads onward to the love of country, and to that wider humanitarianism which builds for the betterment of the human race.

The true, the beautiful, the good, are so closely interwoven that we need to develop them together in the growing mind. The child should be taught to cherish the true because it is truth, the beautiful because it tends to elevate, and the good because righteousness exalts a human life.

The spirit of reverence marks the man of larger calibre. The child should have this spirit engendered in him by the very atmosphere and conditions of the home. The family altar is the shrine around which the devotion of the heart to God should be expressed. The very regularity of the morning and evening devotions leaves an indelible impression on the plastic brain.

There are periods of great emotional instability, such as we find in adolescence, when a reverential faith in God will be of incalculable value even for this life. If it be true that relatively few people find the Saviour after attaining majority, and that eighty per cent. of all church communicants identify themselves with the church during their Sunday School days, the great opportunity and the serious responsibility of the home is apparent. The future of the nation, of the church, of the great institutions of mankind depend upon the consecrated home. From the Christian home should come the product which will bring equity and fraternity, righteousness, and truth to the institutions of the human race. Lay the foundations of character properly and they will rear their own superstructure—the Kingdom of God in the world.

MOTHERS' MEETING.

A special Mothers' Meeting was held at the conclusion of a dinner given in the members' dining hall in the Parliament Buildings, to about eighty of the mothers in attendance at the Convention.

Mr. G. A. Putnam presided.

Address by Miss Elizabeth Stover, Norwich, Ont.

After all the interesting meetings we have had, I think perhaps there is no subject that we will be more interested in than the subject of recreation. I think there is no place where we see such spontaneity as in the playground. There is perhaps no place where children are so natural as in their play, and if the older

people lose that spontaneity, it is a very great misfortune. There is no question about it that none of us play enough. The spirit of youth is what we all want to preserve. It is one of the things which is the great joy of life, to meet an old person who has preserved it; they are anywhere from sixty to ninety or one hundred years *young*. It has been my privilege to know a great many of these people who measure their youth by a large number of years, who know how to preserve the spirit of youth, and I think they are the people who have played with spontaneity.

There are a great many ways of amusing ourselves, because, as we heard this afternoon, the one thing we should emphasis in the development of an individual is the development of individuality and it is most apparent in our study of the reaction of life. The matter of recreation and play as a means of preserving the spirit of youth is something that is engaging so much attention now that we have organizations, as you all know, taking up this question of play. We have the Play Grounds Association, and over across the line we have organized movements reaching out all over the States, instituting recreation centres and finding the relation of recreation to all our other welfare movements. It grew perhaps in part out of that preliminary study of which child welfare is one expression. Those of us who are foster mothers or natural mothers realize that the play time with the children is the time that brings us the greatest knowledge of them, if we really know and understand them in their play. It brings us problems of how to amuse the children and how to give them recreation when they are very young. I heard that babies could be amused a long time by putting a little treacle on their fingers and letting them move a feather from one finger to another. I leave that to you whether that would help to inspire and perpetuate the spirit of youth.

The whole question of play comes back to us from a great many standpoints. There are times when in the school the teacher realizes how much it means; she realizes the attempt to bring play into the school-room is a rebuke to her, because she has failed to bring the spirit of joyousness into the work, and a great deal of disaster is created in the school-room because of that, and that is part of a project of having enough play to preserve Jack from being a dull boy. There is nothing in education that holds out more promise than the study of the children in play. We know, as we have been told to-day, that the child starts with these spontaneous movements of the baby and when they become a little older, the imagination comes into play and that imagination forms those images so differently from the ones we form. We know the various forms of mischief are manifest amongst children because they have been thinking about things a little differently from the way we thought they were thinking. Mischief is simply the child's spirit of youth in play, and so there has come about a study of play and a great deal of attention is being paid to it.

Most people believe that play is so spontaneous that they do not like to think there should be a study of play and a psychological analysis of the play instincts, that through the study of it, we might lose the elements of play. We mean that there is such a thing as supervised and suggested play and we realize it plays an important part in the development of the child.

I have wondered whether or not the mothers here are familiar with the little magazine issued by the Play Grounds Association. Joseph Lee's articles on play are perfectly delightful and they are a recreation in themselves.

Now the matter of recreation in the rural districts is one that is exceedingly interesting. We heard something about the lure of the city last night, and, perhaps, it is not so much that, as the amusements—that disposition to go to be

amused. There is a difference between amusement and recreation. Recreation re-creates, educates, develops. Amusement may stolidify, may be like the picking of the feather from finger to finger.

I remember going into the play ground of one of the Ontario schools and where the children did school gardening and were interested in their gardens and were playing in a most delightful way. They invited us to join their games, as simply and naturally as you would invite a school friend to sit down to your table. The whole spirit of the school showed that play was a part of the life of the school and the teacher entered into it and became acquainted with the children through play. In another school close by, the children were playing down in the basement on a bright autumn afternoon. And so it comes back to us that it would be worth while to take up this whole question of play—the question of play for young people and for adults.

We spoke of the lure of the city. Perhaps one of the most interesting investigations has been the investigation of the dance halls in the large cities. Some of you may be familiar with the work done. How so many of the daughters of ours who are working in the factories and stores in the city go out from their small rooms, which have so little of home-i-ness about them, and seek their pleasures very largely in the moving picture shows and dance halls, and attention has been drawn to them, so that it has brought about the study of the conditions of the dance halls, and now we have municipal dance halls. We are not advocating any kind of amusement, dancing or any other, but we find for the betterment of the girls in the congested part of the cities nothing has been more beneficial than the work done through the study of the dance halls and in finding out how to raise the tone of them, and it was found to be a matter of dollars and cents with those who wished to keep reputable places when they had the support of the municipality working for it.

There was also the question of folk dancing for the children. One of the first things the foreigners learn is to despise the home land, to feel ashamed of their parents, to want to conceal the fact that their parents were of another nation. All that is being changed and one thing that has helped to change it is the folk dancing that has been introduced in the school. And the children discovered that their parents could do these things which they found so extremely difficult, better than they could, and they learned to respect their parents because of their superior ability in the folk dances, and when they were told about the home land, they began to have an increasing respect for the parents of the home land, and that was one thing that brought more familiness in the homes there.

And then that question of the rural recreation—some people are making very valuable contributions to it. I found in Canada a number of schools had joined together to plan for an annual picnic, and the children used to arrange long before hand to have simple little contests in games, until there had grown out a regular system in that neighborhood. These young people were not feeling the lure of the city; they were finding things there that many were going to the city to seek, so that it seems to me that it would be well worth while for this Organization of Women's Institutes to turn its attention to the playground movement. We should all learn to play together; we should learn what kind of play is best adapted to us in the country and what kind of play we want to stimulate and what kind of play we want to eradicate and fill with something else. It comes to our boys and girls just at the adolescent period when it is so hard to get along. Mothers, remember that there are periods in your children's development through which they grow, and just as you have become greatly distressed about what you are going to do with Johnny about this or that thing, you find that he is not

doing that any more. Then comes that period which is most trying, when the boys and girls are developing into men and women. They have a desire to direct, they want to direct themselves, and then comes the need for the infinite patience and love that will keep them close to us, and that is when the recreations that are adopted to them mean so much, so that this is something we might very well turn our attention to as a body. Why cannot we make a contribution for it as a body and make a demonstration and have a report of the results of our study on the recreation best suited to our own locality.

Mr. Putnam: I am quite convinced that this feature of rural recreation, especially for the farmers' wives, is one which can be made very attractive and beneficial to them. I was visiting just south of Woodstock a few weeks ago, when a member informed me that at the next meeting of the Currie's Institute they intended to rent a cottage located at Port Dover for the summer, the members co-operating in furnishing the same with bedding, furniture and dishes, and two or three of the members would go down and spend one or two weeks, and then two or three others for the next couple of weeks; and in that way the cottage would be occupied all summer. They would keep a maid throughout the season and three to four women would be there together at different periods. I think that is a very good idea and a very cheap way of having a good holiday.

Dr. Laura Hamilton: In the presence of speakers so much more experienced than myself, I feel that a little story would be as much as I could manage to-night. You have heard so much about child welfare and there has been a very great deal written and thought about children, that those who care for children, and we all do, you know, are all more or less threshing out the problem of what is to be done especially with those children who have no one to care for them; the children that Dr. MacMurchy is working for or perhaps the better class, the ones she has put so much time and thought on, the children who are well developed and have more than the average amount of sense and energy, and yet are housed by the hundreds in homes and institutions. I have thought a great deal about it and I have come to the conclusion there are a lot of children in institutions that are really fine children, but in herding them up in these homes, the better ones are brought to the level of the lower class. The story I want to tell you just shows what has been done by two people. You may take it home and think about it.

A good many years ago there was a young couple, a normal young man and woman, who were married and had their happy home and the love of each other, and they waited for the third love to come into their lives, but the child did not come and both of them were very fond of children. As the years went on, they were very much disappointed. The man had his work outside and that took up his time and attention. and the woman tried to keep her heart up with Church work and babied her husband until their friends laughed at them. At last they talked it over and they came to a decision and said, "We cannot stand this any longer, we are going to get a baby to take care of," and their friends said, "Do not do anything like that; your heart will be broken if you do anything like that. You cannot afford it, you really must not think of it." But they talked it over and when the years had grown quite long and the money had begun to come in and there was a place in the home for a little child, they went off and got a baby girl from somewhere, and everybody thought it was their own baby after all. It was a delicate little girl and if she had not had a loving mother heart and a woman of scientific skill to take care of her, she would have gone down amongst the hundreds of babies who die every year. But she lived and became a beautiful child and when she was two or three years old, they thought she would grow selfish and they thought they would have to have another child to keep, and they

got another, and a third child happened along that was such a nice baby, and they took that, and I said, 'How many are you going to take? How long are you going to keep it up? "Oh," she said, "my husband and I were saying we had about enough for the three now, but when sufficient money comes in for some more, we can go on indefinitely as long as the money is there."

I did not tell you about her loneliness before she took the children. She used to spend the evenings alone; she tried to sew and she would go out all by herself and she was just lonesome for the babies. She wrote me a short time ago that she is not lonely now—"I have not any time to be lonesome," and she said. "I wish you could tell other women what these babies have meant to us." I said, "Supposing these children were not to turn out as you wished them to?" She said, "Supposing they all three went wrong, I have had and my husband has had in loving them and in their baby love, all that makes it worth while every day we have had them. They are God's own comforters, little children."

I have just told you the story for you to think about and tell others who have lonely hearts.

Dr. Helen McMurchy: I saw in a newspaper the other day, where, of course, everything said is true, that there was a general feeling of discontent among women of the present generation. I do not know but what that is the real reason of my depression. I am not conscious of a feeling of discontent myself. I was just wondering if there is not some truth in that, and I began to think over the other fact that one sometimes realizes that the work done by women often fails of recognition. If there is anything that does us good, it is to hear about some woman getting about $5,000 a year salary. Of course you do not often hear of it. But how are we going to have the work done by women, especially by the mothers, recognized. I have only one little suggestion to make: I believe that the right way to begin would be to lay aside some of the ideas of our work and have a higher opinion of it ourselves. I suppose one reason why the work of women is not recognized as it ought to be is because we do not recognize it ourselves, and when you feel tired and depressed, just go over the work you have done, the immense mounds of butter you have made, the loaves of bread you have baked, the beds you have made, the vegetables you have pared, the dinners you have cooked, and that long procession of things you have done, and never be discouraged again.

Mr. Putnam: While Dr. McMurchy was speaking, I was reminded of the statement that "women have been looked upon as being good in proportion to the sacrifices which they have been prepared to make for their children and their husbands." Now there is a good deal of truth in that. People say, "She is such a good woman; see how she slaves for her children and how she looks after her family!" But in the Women's Institutes we cultivate the spirit of viewing a woman as good when she is good to herself as well as to other people: she does her duty and encourages others to do theirs.

Now, we will be glad to have one-minute speeches.

Miss M. U. Watson: Mr. Putnam and Ladies: Dr. McMurchy said a moment ago that she was discontented. Tell her to get happy again, discontentment is the first step towards progress. We never make any progress until we get discontented with things as they are and go after something better.

Mr. Putnam asked me to say a word about what we are doing for the mothers at Macdonald Institute. Macdonald Institute is training the future mothers.

Mrs. W. Dawson: The president of our district is like the woman Dr. Hamilton told us about. She has never had the privilege of being a mother, but she has been a mother to a great many people. At the present time she has ten English immigrants in her home. She has raised three children from the time they were

babies, and now one is a trained nurse, and another has gone into business and the other is still at her home. At one time there was a family sick with tuberculosis, and she took them in and nursed and cared for them. She is the only universal mother I know of at the present time.

EVENING SESSION.

November 14th.

Miss S. Campbell, Brampton, presiding.

Mrs. Goltz: It is a pleasure for me to be with you on this occasion. It is my first visit to Toronto to the Convention and I am sure it will not be my last. You all know where Muskoka is and you will say "that lady is only from the backwoods" and you will be right in saying so. I was born and brought up in Muskoka and have my home there and I expect to spend the rest of my life in Muskoka. We feel proud of the good climate that we have up there. Thousands of visitors from the United States and from all parts of Canada come there for the summer months. I am here as the District President of South Muskoka, our central point being in Bracebridge; we have eleven branches with over two hundred members. We have a branch at Port Carling and the Honorary President is the wife of the late Senator Sandford, of Hamilton. Each summer as she comes to her home on Lake Rosseau, she gives the Institute a treat in the way of explanation of her visit to the Old Land. During the time I have been District President we have organized four new branches—Gravenhurst, Windemere, Monk and Bracebridge. We had a convention in 1911, at which Mrs. T. M. Stewart and Miss S. Campbell were present. In the afternoon the attendance was about 200 and in the evening 500. We have a rest room on the Fair Grounds and it is all paid for. We serve meals in this rest room during the Fair.

Mrs. Teresa Stewart, Bobcaygeon: I have attended these Conventions for several years and always with pleasure. We may look upon a Convention as a sort of "parliament of women," as representative of the men's parliament, and quite as important in the advancement and development of the home—the rearing of sound, healthy, normal citizens and the upbuilding and prosperity of the Province. The men's parliament has political influence, but while we have the rearing of the voters, it is our own fault, if those voters are neglectful of the interests of their mothers, wives and sisters. Our Bobcaygeon Branch has a large membership, and membership is not obtained without asking for it, and there are few branches that should not have three times the membership that they have.

Get after new members, extend the good work of the Institute.

Our Branch undertook some work this season in a village park, cleaning it up and lighting it with electric lamps. While this sort of work may aid in increasing enthusiasm, I would not advise too much of it. Better accomplishment can be obtained by sticking to our knitting—our development of home makers.

Get the young girls interested in the Institute meetings, see that at every meeting there is something of interest to them, something that they will feel they have gained. It would be well to have an occasional meeting made especially interesting for girls of ten or twelve years.

The great work of the Institute being the making and the uplifting of the home, girls cannot be too early given a bend towards women's true mission in the world, "the making of a comfortable, happy and prosperous home.

Mrs. J. J. Hinman, *Cobourg*: I have represented the District of West Northumberland for seven years. We have been organized about eleven years. For three or four years we carried on the work at the different towns and villages, and then we organized branches at the different places. Last year when Miss Campbell visited us we organized four new branches, so that we now have nine branches with a total membership of 375. Our youngest branch is the largest, having a membership of sixty-five. We try to have printed programmes of our meetings. Two or three of the branches have a lawn social in the summer or a concert in the winter for the purpose of raising funds, and these funds are used for the betterment of the community. In one place they have established a public library. In another place they have put two cement crossings in the village. Nearly every branch gives aid to the Children's Hospital in Toronto each year. Of late we have been taking up the work of our own Cottage Hospital at Cobourg. We are planning to have a new hospital building and we intend to do more extensive work in that line. The Hospital Board have asked each branch to appoint one of their members on the Hospital Board. We had a booth erected at the time of the Cobourg Horse Show, and for the two days we gave lunches, and we raised a nice sum for the hospital in that way.

A VISIT TO THREE NORTHERN CONVENTIONS.

Miss S. Campbell, Brampton.

Learning that I was to attend the District Conventions at Port Arthur, Dryden and Emo, I felt that a great responsibility was laid upon me, for among the Northern Institutes a great deal is expected from the delegates.

At Port Arthur, I found a warm welcome for the Institute delegate and each member determined to make the convention the best ever. As to the interest taken and the appreciation of the convention, this was shown by one woman driving twenty-three miles, getting up at daybreak to do so. Others drove as far as fifteen miles. "Why I have walked fifteen miles to a monthly meeting and have been glad to do it," said one. As I learned of the hardships of these women, I also learned of their bravery and courage. With such qualities, what will not these women do for their new country. At the morning session Mrs. Hahn, of Murillo, presided, with her babe in her arms. The child caught the inspiration of the hour and behaved beautifully. Mrs. Hahn gave a splendid address, inspiring all to a better vision of the possibilities of the Institute. The reports from the branches may be condensed in this—all have great difficulties, such as long drives, bad roads, living far apart, but the women with great hereoism are overcoming all hardships, and with a keen thirst and desire to become better educated and work for their new homes and country, they bid fare to be more progressive than the women in some of our Eastern institutes, and may, in future, eclipse them. Everyday problems confront those women. The question drawer was filled with scores of questions, not frivolous ones, as is the case sometimes, but what would be of real value to the work in future. It was a delight to give any knowledge that I had to those women. In the afternoon, Colonel Ray, the mayor of the town, gave a stirring address of welcome. He spoke with appreciation of the work of the Institute, and wished success to these women who are banding themselves together to make better homes and good citizens. Toward the end of the session, when I was telling of the prizes donated to the Port Credit Institute for the competition in well-kept lawns, Colonel Ray came in and was much interested,

so much so, that he asked the co-operation of the members of the Port Arthur Institute in making that town a beautiful one. Our Institutes are being watched, and in our quiet way we can educate public opinion as to the value of women's work. I see a vision of the future. If we women want votes, and are educated well enough for our work, men, the most reasonable creatures on earth, if taken in the right way, will give us votes without our asking; and our large organization of Women's Institutes, if we do our duty, as contained in our motto, will be the greatest medium through which men will recognize the fact that we are faithful to home and country.

Mrs. McGregor, of Slate River, the District Secretary, gave this thought to the convention—"We believe the woman who meets her friends occasionally, gleaning something from their experiences and whose mind is broadened by outside interests can do more work in the home, do it more efficiently than one whose horizon is confined to her own domestic routine."

Colonel Ray, the mayor, entertained the delegates to tea and to an evening's entertainment.

The next day I visited the Domestic Science Class at the Collegiate Institute. This class is taught by Miss Hattie Gowsell, one of our summer Institute lecturers. The work being done by the girls was excellent and I only wished that I were young again that I might receive such instruction. The jelly made at home by one of the girls, after one lesson, was equal to much that I have awarded prizes for at fairs.

At the Dryden Convention, I met the same interest. The conditions under which the members work are similar to those in the Thunder Bay District. These women are developing. The Institute is helping to obliterate self-consciousness and timidity from the character of the women of the rural districts. The Institute people in this district were asked to assist in giving a welcome to the young men, who are constantly arriving there from other parts of the Province, and in making good towns for them.

I arrived very early at Emo the day of the convention, but had scarcely taken a little rest, when I saw lumber wagons coming in, filled with women. But I saw more—a class of brave, intelligent women. An Institute song, composed by one of the members, was sung at one of the sessions. The District Secretary walked four miles the evening before the convention over trail, logs, water and brush, with rubber boots and raincoat, and on Monday morning drove the remainder of the way—eight miles—in a lumber wagon—a mode of travelling which has to be experienced to be understood. And all this inconvenience that she might not miss the convention! She spoke of the special requirements of the pioneer country and ventured the opinion that the Institute can meet these needs in a way that is not required of the Institute in the older districts. The lack of knowledge is felt in the northern sections, perhaps more than in other districts, and it is through the Institute that the women are getting information and instruction that they otherwise would miss. The highest ideals of the Institute are not expressed in the monthly meetings which are held for entertainment only. There is need, too, that women should take a greater interest in municipal affairs, in the sanitary condition of their towns and villages, and she looked forward to the time when women will everywhere have a place on the school board, a position for which they have special qualifications. To this end the Institute may be a school for training women in business-like methods. This District Secretary is a married woman, teaches a small public school, attends to her home duties and is working for the betterment of her community. An amusing feature of the programme at Emo was a debate between two women on "Should Men Vote?"

The lesson to myself from these conventions is that we must introduce our work into the hamlet, the cottage, the shack and try to educate those who have come into our country, help them to be good citizens and, irrespective of creed or birth, extend to them the hand of fellowship and make others better for our living in this world. I see a mighty work to be done in Northern Ontario.

Delegate from King East: I merely represent one of the branches—King East. I suppose I am here because nobody else is ready to fill the bill. We have a tactful President, and all our members are quite willing to take their part in the programme and I do not think you will find a more harmonious lot of women. We have got past the recipe stage and we are taking our subjects from the list given us by the delegates and some of them are pretty stiff subjects; and you would be surprised at the capable way in which the women handle them. Quite a number of our papers have found their way into print. Last winter we had a wonderful meeting on the occasion that Miss Campbell came to visit us. We exchanged courtesies with another branch and they gave us a Scotch programme, that was a compliment to Miss Campbell. We had almost one hundred ladies present. We had lunch at our President's home and a great meeting in the evening. The next week three of our ladies visited Aurora and debated the question, "Should Women Vote." Needless to say the women won. The gentlemen said that the best argument we could use was our presence there and our way of taking up the subject.

Last August we gave the meeting over to the young ladies for a Surprise Meeting, and it was a Surprise Meeting. It was surprises from beginning to end. We had more young ladies there than we had any idea we had in the whole district, and that was a surprise. They gave us a splendid programme and then we were treated to ice cream and cake of home manufacture.

Mrs. J. T. Welbourne, of Uno Park, New Ontario: I feel a little awkward on a platform in Toronto, because we live so very far north. I just feel that I would like to sit down there and enjoy just such reports as Miss Campbell has given. We used to think in our district that we could not afford to send delegates to the convention in Toronto, but after I attended the first convention I made up my mind that we could not afford to stay away. I cannot say that we have grown a great deal since the last convention, and perhaps we have not accomplished a great deal of work, but we have commenced work that we expect will be a great benefit to the community. Our work extends from Cobalt to Matheson. We expect real good things of the Matheson Branch, because our Secretary spends a good deal of time there. I heard a few days before I left that the Methodist clergyman's wife at Cochrane was an old Institute worker, and we expect that we will be able to organize an Institute at Cochrane, and if we do we will be organized from Cobalt to almost the extreme end of civilization in the North. We have thirteen branches, with a membership of something over three hundred. Last summer we started a war against the house fly. We are going to dwell on the work of the home for one year and we expect to accomplish something well worth while. We are endeavoring to have medical inspection in our schools; we see great need for that work. I have always thought that if they need it in the city we doubly need it in the country. When Doctor Backus came to our Convention to help us at New Liskeard, a few weeks ago, she spoke along these lines. At that same convention we had an address from a dentist. We are getting in travelling libraries and they are doing good work. A farmer owns some land near Uno Park that is quite beautiful, and we did not want the trees cut down, and we thought we would like to get hold of it and make a public park of it. The river runs by it, and it is only eight miles to Liskeard and the people can come

up in their motor boats. The land lies on the town line between two townships and the Institute asked these two townships to contribute the purchase price of this piece of land—$200—and allow the Women's Institute to control it. At the first council meeting of one of the councils they passed the by-law; they didn't even wait to write or anything else, but one of the members telephoned me that the by-law had gone through. They also took the trouble to communicate with the other council and asked what they would do, and they said that they had appointed a committee to look into the matter and they are still looking into it. The first council say that if they do not do something soon they will buy it outright themselves.

NEGLECTED AND DEPENDENT CHILDREN.

By J. J. Kelso, Toronto.

Madam Chairman and Ladies of the Women's Institute of Ontario:

I feel highly honored in being asked to join this happy family to-night. As I listened to the reports from all parts of the Province describing the good work undertaken by the Institutes, I felt quite at home, because there seems to be a pleasant social atmosphere here, and everything seems to go on smoothly and in a business-like way. I have often heard of the Women's Institutes. You are a body that is known by your good deeds. Secretaries of Children's Aid Societies and other friends throughout the country tell me of the things that have been done through the Institutes. It was a good idea when the women of the Province decided that they would organize for friendly, social, neighbourly service. Life in rural districts will be brighter and happier in consequence.

Justice for Children—not Charity.

This should be the shibboleth of all who have the interests of the young at heart. The practical carrying out of this thought would mean the saving of many young lives from shipwreck, and obviate in a large measure the burden of taxation under which the country now labors for the support of havens, refuges, reformatories, prisons, asylums, police, judges and law courts. To dress up little short-haired girls in uniform and keep them on parade at orphan schools may be a form of charity, but it is not the true conception, nor is it one-tenth part of the great work that needs to be done for neglected and dependent children. Justice for children implies the safeguarding of all their rights and the protection of all their interests. One of the first concerns should be to ensure the child a happy and morally healthy home life. Mother love and clean environment are two of the great essentials of childhood and upon them rests the happiness and stability of civilized existence. Anything that would tend to rob a child of these rights must necessarily be wrong and hurtful. A child heart yearns for mothering more than anything else on earth, and if it is denied this in its early years, the man or woman will carry the scars of a warped character all through life. In philanthropic work, then, the aim should ever be to KEEP THE HOME INTACT, removing as far as possible the causes that make for separation. If there be drunkenness and vice, these should be eliminated by patient effort, appealing to the parental instincts and invoking both the law and the gospel for the children's sake. If the mother be a widow or a deserted wife there should be some system of financial aid whereby she could keep her children around her. Our present system of relief is woefully lacking. If a mother be left

with several little ones whom she is unable to support, they are placed in public institutions or otherwise scattered, and the unoffending children, and in most cases the equally innocent mother, are separated for all time, to the permanent injury of both and to the detriment of society. Sometimes these women, in their determination not to part with their children, go out to work by the day, leaving the children to their own resources, and ultimately to drift into reformatories through lack of training. Men who desert their families should be followed and punished as rigorously as the worst criminals, for their crime is more far-reaching and disastrous than embezzlement or forgery. Mothers, widowed or deserted, should be kept with their children no matter what the cost, and the temptation to put the children in orphans' homes removed.

The Children's Aid Society stands for the rights of children. It advocates the normal home life, the encouragement of worthy mothers and the foster-home plan rather than the institution in providing for such boys and girls as are left homeless from any unavoidable cause. Unhappily, there will always be some parents so besotted and degraded as to be irreclaimably unfit guardians for children, and in such cases the courts are asked to declare the children wards of the state, in order that their rights as future citizens may be safeguarded. During the past twelve years thousands of *hovels have been turned into homes* through the intervention of the Society leading parents to realize their privilege and responsibility.

The best work is that which leaves no visible evidence; and preventive work, such as that of the Children's Aid Society, is handicapped because it is not a spectacular charity. Is not this the reason why handsome endowments are left to large institutions, while the Society cannot find the means to employ an agent to protect and befriend children in their own homes?

In addition to the families that have been reclaimed from the thraldom of vice and drink, over two thousand destitute boys and girls have been provided with Christian foster-homes in rural Ontario—gathered from the purlieus, from the poorhouse and the prison, and transplanted into an atmosphere of happiness, contentment and industry. Not two per cent. of these children have found their way back to their former degradation, but are able to hold up their heads with the best in the land—a credit to themselves and a strength to the state instead of a burden and a menace.

But there is still much to be done if society is ever to be relieved of the great incubus of pauperism and crime, costing over *one-third of the revenue* of the Government in addition to the vast sums expended in private benevolence and municipal aid. So far as words of commendation go, the Children's Aid movement gets all it needs, but it is money that talks practically and it is money that is needed to provide an adequate defence against the evils and injustices that assail childhood. In Toronto nearly half a million dollars is expended annually to keep up the police force, while the Children's Aid Society is considered extravagant if it has more than one or two officials to save the young from a criminal career. In other towns and cities no funds can be secured for the appointment of an agent. The fact is that people have become so accustomed to the daily grind of the police court mill that they look askance at any proposition that would lessen the supply—particularly if an expenditure of public funds is involved. Tens of thousands for prosecution and conviction—coppers and nickels for prevention. Here is the all sufficient reason why so many boys continue to gravitate toward the police court dock, and girls, after an idle, misspent youth, find a ready entrance to the brothel.

The children's cause needs influential friends, greater liberality, more con-

secrated workers in town and city and village, a heartier endorsation at the hands of magistrates, judges and crown officials, a more general knowledge of child-protection laws and an effort on the part of all good people to see that the excellent machinery provided by the Government is put into operation.

Mr. Kelso showed stereopticon views that greatly added to the enjoyment of the evening.

MORNING SESSION.

Friday, November 15th, 1912.

Mrs. J. R. Eakins of Millbrook, presiding.

The Chairman: My lady friends and co-workers: In regard to the work of East Durham, we have ten branches and over five hundred members; in one branch we have 142 members and in another 124. We considered we were one of the banner counties, but after hearing the good reports which we listened to yesterday, I think there are many doing just as good work as East Durham, but we hope our report for next year will be the best.

We have different methods of making money—the usual concerts, entertainments, oyster suppers, garden parties, excursions and things of that kind, and I think there are three of the branches who have vacuum cleaners and they rent them out to different people in the county at a small fee; some of them charge the members of the Intstitute not so much as those who are not members.

This fall we had a ploughing match which was quite a success. It was held under the auspices of the Farmers' Club and, although the day was not very favorable, as it started to rain about dinner time, it proved of very much interest and was certainly successful. They had tents erected where they served dinner and lunches, and the lady whose home was nearest to where the match was held, allowed them to use her kitchen. They served cold meats, hot potatoes and vegetables, pies, tea, coffee, etc., at a charge of twenty-five cents for the dinner, and in the afternoon lunches were served of meat sandwiches and tea at a charge of only ten cents.

During the winter months, the Farmers' Institute have what they call short courses and they last three days. During that time, one of our branches is going to serve dinner and tea for all who attend and wish to buy their meals. They have held it for the last two winters in Millbrook which is the central point for our branches. Out of our ten branches, we have representatives from five here and we consider that very good, as we have to come some distance.

One of our branches has laid over two hundred yards of cement walk in their village which has a population of a hundred and fifty or two hundred. Another branch has furnished a cot in a hospital, and other branches are attending to the schools, communicating with the trustees and doing all they can to improve the condition of the rural schools. Two of our branches are taking up the work of renovating and redecorating the town halls, which is certainly very necessary, because in the villages the town halls are rather neglected looking unless we women undertake to decorate them a little. The two branches which have undertaken this work have put in new scenery and carpets and one branch thought they would start to build a new hall altogether.

In former years we held an exhibit at the Millbrook Fall Fair, at Millbrook is the most central for all the branches. The first year we showed plants which had been grown by the members of our Institute; the second year we had baking,

and the third year, lady's work. We got over five hundred programmes printed and every member gets a programme. On the front page we have the date of our meetings, the Opening Ode and our Motto. In the centre pages we have four subjects for each month and on the outer page we have all the names of the district officers and the branch officers. In planning the programme the District Secretary of East Durham and I wrote to all the different secretaries and asked them if they would select suitable subjects for each month and send them to me. Then the Executive Committee met and we selected four subjects out of all the subjects sent to us from the branches, which we thought would cover a wide range in our work, so that if any branch could not take all the subjects, they could take as many as they wished. We took four subjects for a month and the roll call, and it has been a great improvement in the attendance at our meetings and much greater interest is being taken in the meetings. The members know that something worth while will be taken up because they know what they are going to get.

Our new work for the coming year is to improve the country roadsides and this we are going to take up for the summer of 1913.

Mr. Putnam: We all recognize the good work which is being done by the district secretaries all over the Province. If you have a good secretary, keep her and pay her well for what she does. If you have not a good district secretary, get one and remunerate her as she should be paid.

Mrs. J. E. Brethour, South Brant: In the early days of the Women's Institute work, it was a great deal of trouble for women to say anything on their feet. Now the greatest difficulty is to get them to sit down.

We are a very old branch, our Institute in South Brant having been established for some ten or twelve years. We have 11 branches with a membership of over 400 and the only work we have done that is of a local character is the building of a hospital for the tuberculous in Brantford. We held an excursion to Munro Park in Hamilton which netted us over $100. There are always a number of women who will take hold of anything new. We have only seventy-five in our local branch now, but we are still alive and kicking, not because we have not the franchise, but we want to exercise the women's rights we now have, to reach out and help our own municipalities.

I would like to say a few words on the subjects that were spoken about yesterday. There was not a word said about the mothers-in-law, but just about the mothers and the god-mothers. I think the mothers-in-law and the step-mothers and the elder sisters who bring up families are very much in the line of good women. I am not speaking about a subject that I know nothing about, for I have lived with a mother-in-law for seventeen and a half years, and I would just like to say to the young woman who is going to live with her mother-in-law, that she is likely going in with the idea that she will make her mother-in-law over and have her conform with her ideas. But the mother-in-law is usually a woman of between fifty and sixty and is not readily changed and perhaps you will have to make yourself over and conform with some of her ideas. Surely loving the same man ought to be a bond between the mother-in-law and the daughter-in-law, because you must remember that your husband was her baby, her little boy in his first boy's clothes and her young man long before he was your young man, and just have that bond of unity between you.

There has never been a vote of sympathy passed to the childless mothers. There are a great many women in the country who have not had the honor of being mothers but who have just as large mothers' hearts as the mothers of children. I

want to tell you one instance in my own town and which happened in my own house. I had a little tea party of six and one was a dear friend of mine who was in the same position that I was, who had no children, and another was a mother, but of rather narrow mind. She remarked there was no home complete without children and I seconded that motion, because I believe that is true, but I noticed that my friend was just a little put out. And when this woman said she did not think your husband could love you if you did not have children, and she did not think you could properly love your own mother if you did not have children. Then this friend of mine fired right up at once and she said "You love your Mary as a cow loves her calf. I love children better than you do. You date everything from the time Mary was born. I love every child in the village and everyone loves me, and you do not know anything about them, you do not know their names or even that there are any other children hardly." We to whom motherhood has been denied can open our hearts to other people's children, so that they will love us and love to come to our homes. We can gain their confidence, direct them in their little needs and try to go back when we were children and enter into their play, and life will be so full that we will feel we are of value in the world even if we are not mothers. There is always work for us to do. We should make our homes so attractive to young people who are homeless that they will love to come there, and especially if we live in that part of the country where there are many young Englishmen. Make friendly overtures to them and invite them to your homes, and talk about their mothers and sisters and encourage them in that, and go on helping on with the good work and do the duty that is nearest, "meanwhile helping, when you may, lame dogs over stiles." (Applause.)

THE FUNCTION OF THE FARM WOMAN.

By Arthur Hawkes.

Madame President, ladies, and the few persons I see who are a little lower than the angels. (Laughter. A voice "Speak louder.") I will speak louder in a moment, madame. If you had never stood up before four hundred women you would feel some scared yourself. (Laughter.)

One spring, when I was working on a farm, my mother sent me a little love gift from England, two or three love gifts, in fact, as she had a habit of doing. One of them was a blue serge coat, which was much too big for me. The people for whom I worked were named Winteringham, from near Stratford, and I traded it with them for a brown duck jumper; at least Mrs. Winteringham called it a jumper—it was a coat to work in. Mrs. Winteringham made the jumper, and it fitted fine. It wouldn't fit now (laughter), although it is in my house in Toronto. She made the jumper and I wore it, and Mr. Winteringham got the blue coat. The husband got the better of the deal. He always does, especially on a farm. I think that three-cornered arrangement between the farmer and his wife and the hired man is very, very typical of some conditions that affect farm life in this country.

I don't know how many people have talked to you who have lived in farmers' houses as hired men, or whether in this convention or in your own institute meetings you consider the problem of hired help and your relations as household mistresses to it. I know, if I were to ask my wife, who is a better woman than any one of you here (laughter)—if I were to ask her to take another man into

the house and look after him, I should feel that I was laying a great task upon her patience and her good nature. It is no joke to have a stranger come into your house, especially if he is from England (laughter), and doesn't know where to find the letter H., and when he does find it, doesn't know where to put it, (laughter).

And it is not always a joke for a man to come from England and go to an Ontario farm and make himself over again under your 'heagle' eye (laughter). Suppose you were dumped down in a Yorkshire village and told to make a Yorkshirewoman of yourself, accent and all, in about three weeks, how would you like it? You would look nine ways for Ontario and the next Institute meeting (laughter).

Did it ever occur to you that this matter of hiring a man isn't anything like as important to your husband as it is to you. Your husband is his boss entirely, and though it is quite true that you are your husband's boss, you have to handle the hired man more carefully. He is in your house for seven days in the week, and he may be a nuisance to you, and he may be a great advantage to you.

Now, when I used to live on somebody else's farm—and I left the farm for the good of the farm, ladies, not for my own—I got some insight into the loneliness and the drudgery of a good deal of farm work. When you are banding together to improve the conditions of rural life, to get a little more of your own than you are apt to get when the men run everything, there are possibilities of reaching out into the outside world and by that means becoming more powerful in your own municipalities and counties than perhaps occurs to you.

I have the honor to be the father of four daughters. All our family are of the better sort you see. (Laughter.) I sometimes compare the experiences of those children with the experiences of children I used to know on the farm and with my own experiences when I was brought up on the farm. They have opportunities of reaching out with their minds which many little kids do not have in remote places. But in these days of telephones and newspapers the world goes marching by your door every day. If you can bring your children into contact with things that are going on outside their own little home, if they feel that they can draw knowledge and interest from people who are a long way away, and can return the advantage, you are not only going to bless them by such exchanges of ideas, but you will make it much easier for them to stay on the farm. They will, in a peculiar sense, know that somebody they never saw is staying on the farm with them.

How can that be done? Let me tell you what I told some of the inferior sex the other day. In Northumberland County, England, named after Northumberland County, Ontario (laughter), there is a parish called Ellingham with about seven hundred agricultural people in it. A little while ago the schoolmaster of that parish wrote me a long letter. He said, "We have people going to Canada from this parish from time to time, and more are going, and I would like to get my children into touch with children in Canada."

I replied that if he would get the children to write letters with a view to introducing themselves to some Canadian children, I would try to find answerers to them. By return mail, I got twenty letters from Ellingham from children who want to get in touch with children in this country.

There could not be any better stimulus for your children than to receive letters from across the sea and to know that their letters are going over there, not to be read merely by one child, but to be read in a school. There must be

many children in your districts who would be mighty glad to enter into relationship with children across the sea.

What has that got to do with the hired man? Let me show you. Supposing that in your district you have got one, two, five, six or ten children corresponding with as many villages and parishes in the Old Country. You might become known in that district. There are fifteen thousand parishes in the United Kingdom growing and exporting every year a family or the equivalent of a family. Many of them are going into the big towns, there to push the line of social prosperity lower down.

These are the kind of people that it is very desirable to obtain in this country. If you have got children in touch with villages over there you are securing a supply of the best kind of help you can possibly have.

You are doing more than that. Instead of your having your husband having to go down to Toronto at great expense and pick up anything that comes along, you have got a chance to secure people into your district who are recommended by women like yourselves and by clergymen and public men on the other side of the Atlantic. Is that a new idea for Women's Institutes I have a kind of notion I should not be taking the trouble of coming and telling you about it if I hadn't been through the mill.

Mrs. Winteringham, with whom I traded the serge coat for the duck jumper is a widow now. Seventeen years afterwards, I went back to her farm. I had vanished in the meantime and I might have been in heaven or in gaol for all they knew—most likely—(laughter)—heaven. I went back as I have done every time since that I have been near Brandon, because I had a kindly recollection of her conduct to me. When the good lady who preceded me talked about showing kindness to the young Englishmen who come along, some of those fellows who need a good deal of licking into shape, I was thinking of the kindness of Mrs. Winteringham to me, in token whereof I keep that jumper in my house to-day. If you want to do something worth while, just spread the news of yourself and your children across the Atlantic. So doing, you will accomplish something for your farm and a good deal for your country, and after a while the Women's Institutes can take over from the Ontario Immigration Department the business of getting the right kind of people into this province.

DEMONSTRATION LECTURES.

Miss Gertrude Grey.

The Demonstration Lecture Courses which are being tried this autumn are a comparatively new phase of our Institute work and are constantly growing in popularity.

Three weeks before the work started, I visited Northumberland County, became acquainted with the officers and made arrangements for transportation. Thanks for the very explicit directions sent out by the Department, I found it was pretty well understood by the officers and it was an easy thing to start work. Arrangements had been made for halls to be used throughout the course, except in one case where it was thought best to hold the meetings at the home of the president. The advertising had been done by means of the local papers and the telephone, and by the way, the rural telephone is a splendid thing to boom Institute work.

In each of the cooking demonstrations, special emphasis is laid on the food value of the different foodstuffs and their relative cost and their digestibility. Each lady is supposed to supply herself with a spoon to taste the thing being prepared. I have seen one spoon do duty for five or six ladies.

The supplies for the cooking demonstration are paid for by the local Institute, or in many cases different ladies take turns in supplying the material required, which very materially lessens the cost to the Institute. In most of the places, assistants are provided. In four of the places I visit my assistants are young girls who are getting the course free for the help they give me. All the towns which I visit, except one, are off the railway, so that driving from place to place is a good part of the day's work. Where the towns are on the railroad, classes are held for the high school girls; but in my district, this is not feasible. The attendance does not average over thirty-one at each place, yet that number represents women who have made a great effort to get out. All the places are off the railroad except Brighton, and the women have to drive five and seven miles to be present at these demonstrations. The six weeks just passed have amply evidenced the interest the women of Northumberland are taking in the course and the interest and co-operation of the members have been very gratifying. The interest taken has displayed the desire of women to keep step with the civilization of the world. Wherever we look over the civilized world, we find a scientific movement for the improvement of the race. In every country, the best scientists are giving their time and thought to the study of the organism of the body while the Boards of Health are trying by methods of popular health movements to build up a people of strong vigorous constitutions. All these workers have the same points in mind; they agree upon the necessity of having the right kind of food, rightly cooked. They are urging that the members of the human race learn to feed themselves with as much wisdom as they have displayed in the feeding of domestic animals. An American lecturer once said: "If you will be well fed, be an American hog," and the implied thrust at American housewives may not be without a point to our own country. Coupled with the abundance that occupies Canadian tables, there must be combined the knowledge of the nutritive value of the foods used, their relative cost and digestibility. Then only can the home cook best minister to the physical and mental development of her family.

There is too much truth in the statement of Emerson "To know how to eat, what to eat and when to eat, is a problem that humanity has not yet solved, although she has enriched herself with many inventions." There is no doubt whatever of the interest that is being taken by the women throughout the Province and the women who are most interested are the ones who know the most to begin with, and I believe the work started this year is just a beginning of more comprehensive work to be taken up later.

Miss Hughes: Miss Grey has spoken to you about the cookery and food value phase of the Demonstration Lecture work. As she said, the Demonstration Lecture work is a new phase of our Institute work.

Last night at the mothers' meeting, we enjoyed so much Miss Watson's little talk, who in speaking said that Macdonald Institute is training the future mothers. That is perfectly true and we are very glad that so many thousands of the future mothers have the opportunity of going to Macdonald Institute and receiving the training. There are, though, several thousands of the present mothers who have not the opportunity and there are a great many thousand of the future mothers who will not have the opportunity, and we are really bringing bit by bit of

Macdonald Institute to those who cannot go there. I think that might indicate a little bit of what we are doing.

This year so far we have only introduced two phases, the sewing and the cooking. I hope in a few years we will have more phases of the things that are essential for the future mothers to know introduced in this way.

The course we have in North York is a combination course covering sewing and cooking. I will not touch on the cooking because Miss Grey has told you about that. The sewing part of it is of course very important. It is quite as important as the cooking. We are all keenly interested and enjoy very much the things we do particularly well. I happen to know how particularly well the members of the Women's Institute cook, and I think that accounts for their interest and enjoyment of the cooking course. There are more women good cooks than good sewers. Still we do not seem to take quite the interest in the sewing that we do in the cooking—that is, we do not think we are going to take the interest. However, the women who have started the sewing work find that it is just as interesting to them as the cooking. In the work taken, we are not attempting to turn out full-fledged dressmakers. One of the speakers said the other night, "The way to help the people is to help them to help themselves." We want this work to be practical and help the woman to help herself in the particular realm of sewing. The course is very short to teach any great amount, but we do try to make it as practical as possible and furnish as much help as possible to the women with their own problems.

The students' classes are very important. You must understand that the students' classes are a little bit different because of the fact that they have to be held in the school, and after the girls have been in school from nine in the morning until four in the afternoon, they are tired and need recreation, but instead of that, they come to the sewing class. Some of the girls know a little about sewing and are slightly interested, others come from curiosity, and others come because their mothers wish them to. If we do nothing else in this course but interest the young girls and get them to start sewing in the right way, we have done a great deal. We must not tire these girls and we must not give them work that is too simple or they will lose interest, and still it is hard to undertake anything that is difficult because the girls are tired already, and they only have a course of one night a week for ten weeks.

In speaking to a school inspector about this work, he said he thought it would help to make it possible, in fact help to make it necessary, to have these subjects taught in the public schools.

Miss Reynolds: We are taking the sewing course and we are all delighted with it. We have a small class and we are very much interested in it, and I am sure the lessons we have had so far have been very practical. If we can make use of all Miss Hughes has given us, we will have a thorough course in sewing. She has given us everything from hemming, darning, button-holes, and different ways of sewing on buttons, adjusting patterns and everything right up to cutting out garments, and I am sure anyone who is taking up the course would be delighted and would get a great deal of information.

Mrs. Morane: It gives me great pleasure to announce to you on behalf of the ladies of Northumberland who are taking advantage of the Demonstration Lectures that we have been thoroughly benefited so far and enjoy them very much. Although we have had just five lessons, we have learned a great deal about foods and food values. We find these lectures very valuable and instructive, as scientific

cooking means economy, the elevation of the human race and elimination of disease, and the foundation of a stronger and hardier people. Just here I might illustrate to show how we value some of these new dishes. A man in our vicinity said to me that one of the desserts prepared by Miss Grey, made from our common apple, was worth the whole cost of the fifteen lessons. We hope the time is not far distant when domestic science will be one of the compulsory branches of education in our schools, for if our girls are taught how to cook scientifically, there will be less domestic troubles for the future generation, more happy homes and healthier families and a larger bank account. In conclusion I may say to other branches, whenever the opportunity of taking this course of lectures is offered you, by all means take advantage of it as you will never regret the time nor the money spent on it.

WOMEN AND BUSINESS METHODS.

Alexander Mills, Barrister, Toronto.

I understand from Mr. Putnam that I am addressing ladies most of whom are from outside of Toronto. I was brought up in the country myself, therefore I have an excellent idea of women. I might say that I agree with Wordsworth when he described his ideal of a woman as:

> "A perfect woman nobly planned
> To warn, to comfort and command;
> And yet a creature not too good
> For human nature's daily food."

However, I do not think it is wise to set too high a standard. I am sorry to say that men do not set high enough standards for women, that is, their idea of the place of woman is not what I think it is. You say I am a supporter of women's suffrage when I say that; well, so I am. But I would not set too high a standard for women in education or business methods. Doctor Johnston said a great truth when he said the average man would rather have a good dinner than that his wife should speak Greek.

As my subject is "Business Methods for Women," I think it wise that I should say something of the law in regard to the relationship of women to property and money. Up to the year 1884, all the wisdom of the statesmen of England and Canada seemed to me (in fact I become very impatient when I read the law) to proceed on the principle enumerated by Burke when he was asked for a definition of politics. He said it was "The greatest good for the greatest number," and, being asked what was the greatest number, he pointed to himself and said "Number One." That was the standard of the relationship of property between men and women up to the year 1884, both in England and Canada. The man was Number One and the woman was incapable of understanding anything or expressing an opinion in regard to the conduct of affairs. Women could not dispose of their own property and could not hold their property free from the control and direction of their husbands. As soon as a woman married, not only did she lose the control of her own property, but it became that of her husband, and he could control it and do what he liked with it. But people now have begun to realize that the intellect of woman is the same as that of man. Woman were created absolutely independent is so far as the control and ownership of their property is concerned. Legislators of late have gone farther than to make women on a level with men in

regard to property; you are now in a better position than men are. You can dispose of your property absolutely without your husband in any manner or form. He has no say. But a woman has a say in her husband's property and he cannot dispose of it in some cases without her consent. I think there ought to be that community and that understanding between man and woman, particularly between husband and wife, that there should be some method of community of property that no one could or would take advantage of the other, that neither one could despoil the other, or dispose of the property of the other, so as to make it uncomfortable for the other and not leave a reasonable means of support. As I said a minute ago, a woman is untrammeled entirely in so far as the ownership and disposal of her property is concerned, and a man is with this qualification, that if he owns real estate (lands and houses) he cannot dispose of the dower of his wife, which is the right to enjoy the ownership of one-third of his real property, that is, all real property that he owns at any time, and in regard to which she did not sign any document disposing of her right to enjoy it for her life. That cannot be disposed of without the consent of the woman.

If a man dies and leaves no will, a woman who has children takes one-third of his property absolutely; she can elect to take one-third for life in the way of dower if she wishes. If she have no children, she takes $1,000 in the first instance absolutely and one-half of all that is left. The husband has not quite as good rights, but you are not interested in knowing what his rights are. His rights are practically the same as yours. The distinction is so narrow, it is almost a distinction without a difference. It seems to me that there is an injustice here. If a man owns property that is not in the shape of real estate, he can dispose of it and not leave his wife one cent. That is our law. The wife can do the same and leave her husband without a cent, that is, if she happens to have any. Either can dispose of his or her property and not leave the other a cent, provided it is not encumbered with dower. I think that is a mistake and, if I were the maker of the law, one of the things I would devote time to would be to see if some law could not be constructed whereby there would be community and harmony between man and woman. I now proceed from these property rights to business methods. The chief object in business methods should be to produce that harmony between man and wife which does not exist to-day.

There is not that harmony between man and wife and between men and women that there ought to be. And why? Simply because, as I started out to say, in regard to the ownership of property, apparently our law was made in the Old Norman times when the man was everything and the woman was the servant. We have not gotten fully away from that yet, and we never shall until we have the fairness and justice to give women votes in the Parliaments of this country. (Applause.) I am not going to make a speech on women's suffrage, but I have studied that question for twenty-five years, I have read all the arguments of statesmen and politicians that I could find, and I have never read one good reason why women should not have the right to vote the same as men.

There ought to be some community between man and wife in the handling of property. Women generally do not take sufficient interest to know what their husband's incomes are and do not assume a joint responsibility with him in deciding when they should spend money and how. Some of them do not get a chance, but many of them do get a chance and they do not take it because of a false idea of the rights of women. They have been brought up to think that they should not take an interest in the men's affairs. If they did, they would not complain so much about what he does. Put a person who is always complaining and finding fault in

the place of responsibility the other occupies, and you will find that they will do what the other did or perhaps won't do all the other would in the direction complained of. The husband being the head of the family and the business man, as a rule, he ought to make a regular allowance, weekly or monthly, to his wife, and any husband who does not do that is to blame. (Applause.) As to what that allowance should be there are various opinions. Some husbands have an idea that their wives do not want anything, only as they dole it out—a dollar or two now and then, and the woman often have an idea that they are not fairly treated no matter what they get. (Laughter.) A woman came into my office lately and her husband with her. They had been quarreling about property. He said "My wife wants half of everything I have, and if it will make peace I am willing to give it to her"—half the interest in the house, half of the money in the bank, all of the life insurance and half of his wages were handed over for her own personal use and he would meet the household expenses out of his half. I prepared the document and read it over and thought "surely this will be satisfactory," but to my astonishment she said: "What guarantee will I have that I am getting half of his wages?"

We meet that over and over again because women do not understand things and do not take a joint responsibility with their husbands in knowing what their incomes are and when and how they should spend them.

I am also afraid some husbands have got the idea of the colored gentleman who got married. After he had lived a month or so with his wife, he came back to the preacher and said "I want you to undo that knot." "What is the trouble?" asked the preacher. "Oh, it is just a case of money, money, money all the time. In the morning it is 'George, have you got a dollar on you?' At noon, it is 'George, have you got a quarter on you?' It is money, money all the time." The minister said "Before dealing with the matter, I would like to know how much you give your wife?" "Well, boss, I have not given her any yet." I know there are woman here who have been treated in the same way.

I think every woman should have an allowance and she should keep an account of it: she should keep it in as systematic a form as possible and as simply as possible—just a debit and credit account. There is not a woman in this audience who cannot do that. I say we ought all to do it. I set no standard for a woman that I do not set for myself. A man who was our city solicitor, and one of the best we ever had in the City of Toronto, never bought a newspaper but he took out his little book and marked it down. That man was never hard up. I came across another man lately who is largely concerned in the lumber business—a business running up to $30,000 or $40,000 and he said "I can tell every newspaper I have bought in the last five years." That man is not hard up and scarcely any man or woman ever will be, who keeps a reasonable account and knows what he or she is doing.

The question of banking and bank accounts. Of course in the country, it is difficult to have a bank account, but there are a great many men and women who ought to have bank accounts but have not got them. It is an easy thing to make out a deposit slip, deposit your money and get the book with your account and have a check book with stubs where you can enter the amount of your check. I never saw a woman who would keep the check book entered up. You cannot keep accounts unless you attend to them carefully. The check book always has a margin and in that margin there is a place to carry forward the balance and for a memo. of what the cheque was issued for. That is the book that will give you the information that you want in regard to money you have paid out. Then women make out their checks they are often in a hurry and they don't mark them on the

stubs or carry the balances forward, and they do not know they are overdrawn. That is not business and it does a man or woman who does it a great deal more harm than it does the banker. I do not advocate any high-falutin' book-keeping—just the simple debtor and creditor, and if you keep an account this way you will be more economical.

Another thing—I think an allowance ought to be made for the children, to teach them economy. That is a difficult thing, but you must train your children if you are going to have them follow business methods. You must put money in their hands and let them keep account of it and support themselves. If you do this you will not find your children spending $1.00 or $1.50 to see a ball game or a theatre. They will do it with your money but not with their own little allowance. When they see they have an allowance to spend, they don't spend it on unnecessary things. It is an education to children to put money in their hands and hold them responsible to see that it is properly spent.

One of the greatest troubles I have had in business is this: I will illustrate it—a woman and her husband were borrowing some money to build a house. I searched the title and found that there were certain things they had to do and I wrote and asked them to fix these up and I would get the cheque for them. I got a letter from the woman telling me what time they got up in the morning, how they took care of the children, clothed them and sent them to school and what trouble they were having about the house they were building, etc. She wrote me four pages and never touched the point I asked about. It delayed her a whole week in getting the money. That is the greatest trouble I find with women. If I write a woman and ask her to do a certain thing, she will answer about something else. The business method is to do it as shortly as possible and come to the point. The best business man who ever entered my office was a farmer. There was a law-suit and the question largely rested on what happened on a certain day. This man was party to it. He produced a book, one of a series that he had kept for forty years, with the doings of every day, and it did not take long to decide the law-suit for it was all there. When that man came into my office, he knew what he wanted and he would be out in five minutes. He was a farmer and it is not necessary to say he was a successful farmer.

I was in a government building the other day to see one of the heads of a department and there was a lawyer there from down in the country. There was some little point to clear up that he could have disposed of in five minutes. When he had spent twenty-five minutes, I rapped on the door and asked the Provincial Secretary how long he would be. The man said, "It will take me less than ten minutes." He talked for three-quarters of an hour longer and he was not talking to the point, he talked all around it. Whether it be in keeping accounts or dealing with property, come to the point and stick to the point and do not bring in three or four points that have nothing to do with the case.

Now I will touch on that point again, of understanding what your husband's income is and trying to sympathize with him and to understand his affairs. I do not say that women ought to attempt to run their husband's business, for there is nothing more contemptible than for a man when he is asked to decide a certain question of business to say "I must go and ask my wife." It is all right for a man to consult with his wife, and often we make a great mistake when we do not, but I do not think any woman should run her husband's affairs. I do think every woman should take an interest in his work and know how his income should be spent. That is often the cause of more trouble between a man and his wife than

anything else. She does not understand what his income is and she does not seem to think it her right to understand it, but she wants money and she does not understand before hand whether so much can be spent or not. None of us men do what is right. I am only beginning to learn at my age. If I could impress on the ladies who are present the necessity of knowing, in a kindly way, of course, what is to be spent, how she could save and he could save, and how she would spend and he would spend what allowance would be made for the children and to her, etc.—much trouble between man and wife would be saved.

I think it would now be better for you to ask questions and if I cannot answer them I will say so and not dodge the question.

Dr. Backus: How are you going to induce your husband to tell anything about his business to his wife?

Mr. Mills: Put your arms around his neck.

A Member: Is that all we have to do?

Mr. Mills: Get him to do it before you are married and immediately after before he cools off. Of course there are always exceptions. I think if a husband is approached in a proper spirit, not in a spirit of "I am nothing and you are everything" in nine cases out of ten you will reach the point.

A Member: Why should a husband's affection ever cool off?

Mr. Mills: Why are there divorce courts in England and in the United States? That is a question I cannot answer.

A Member: Don't you think a woman should stand beside her husband from the very first.

Mr. Mills: Yes, that is right.

A Member: She was created to stand beside him every time and when they start out in life she should be endowed with half the proceeds of his income or property or whatever he has and she should show her responsibility in it, and she should bring her girls up to be just as responsible and self-supporting as her boys. Then I think if she understood his business in that way and they made up their accounts together, life would be much more moral and pleasant in every way.

Mr. Mills: This lady's point is that the wife should stand beside her husband and should be entitled to half of what he possesses and half of his income. I think she is right. I go farther. The day I was married I made my will (laughter)—and gave everything I had to my wife and I have not changed it yet. I had a talk with my wife lately (I am sorry to say I did not begin right, but I think I am learning wisdom in my old age) and I put it in this shape: "It is necessary for business purposes and for my standing and reputation as a business man and a man of affairs that most of the property should be in my name. but it is yours as much as mine, and it is your place to know what I have to spend. My books are brought home and open to you and you should know what I have. If you cannot understand the books, question me as much as you like. When I die it is yours, and it is for you then to say what will be done for the children and it is the same with me if you die, I will say what will be done for the children.

It is a good policy is it not?

Miss Stover: The business property question touches those who have dealings with other men besides husbands. There are sisters and brothers and it seems to me very important that every young woman should have a knowledge of business, so that her dealings with brothers and other people's brothers should be on an intelligent basis also. I had brothers, and when we became of age we were taken into the partnership of the whole family. My brothers managed the farm and I went in my own way and they considered that I had given my contribution to the

family and we have always had a joint interest. Father thought it best to place his property in the hands of his children before his death because he had seen so much trouble involved in wills where the conditions were not understood, and he preferred to do it in that way. I was wondering if Mr. Mills had anything to say in regard to young women with business connection with men besides their husbands.

MR. MILLS: I think I have dwelt too much on the relationship of husband and wife. There is no doubt that there ought to be a business training for the girls—not through a business college, but by doing business in a business way, brothers and sisters together, and when a family live together at home, they should live together as one and try to be one in all respects.

Might I be pardoned if I make a personal referrence to my brother, Dr. James Mills, on the death of my father. My father was troubled about his will and he did not make any at all. He died suddenly. Our family, nine in all, had been pretty well educated, all had gone to the University, except myself—I was the baby boy, and some were married. You can imagine the mess a family would be in when they are left so suddenly and with no will to direct them. My brother got us all together. He took the girls first, and put so many questions to each of us, that by the time he got through, we thought we had received more than we deserved. Then he gave us larger shares than we expected. The consequence was there was never any trouble. Particularly amongst the brothers and sisters there should be an effort to work together. Try and get a business training as far as you can, without having to go to a college and a great deal of trouble will be saved you.

MRS. GRAHAM: My father-in-law believes that the daughters should share equally with the sons.

With the regard to the question of allowance. In the first years of married life the young wife has a great deal to worry her, with the babies coming, and the husband, through affection for her, will sometimes conceal his real monetary conditions from her, and it is in her own hands for to insist upon knowing.

MR. MILLS: In regard to the question of sons and daughters, I think there are a great many mistakes made by men. The law is that they are all equal. The idea of the past was that the son should get $5,000 where the daughter got $1,000.

A MEMBER: Generally when a man dies, the eldest son gets the farm and the daughter gets a feather bed and a few traps.

MR. MILLS: I hope that time is passing away.

A MEMBER: In case the mother dies, can the father, when he marries again, cut out the children and leave everything to the second wife?

MR. MILLS: Certainly he can. That is one of the things that I think is wrong, that a man can do what he likes and leave his wife and children without anything if he wishes.

A MEMBER: In regard to marriageable daughters who have business instincts and business training, do you think there should be a settlement before the daughters marry?

MR. MILLS: I never drew a marriage settlement that I did not do it against my will. There are cases where marriages are contracted that should not have been contracted; but if the marriage is a proper one, no marriage settlement is needed or advisable.

A MEMBER: My father died at the age of seventy-eight and left no will. There were ten children and we settled it by my mother taking a certain amount and the rest was divided equally amongst the children and it was settled up at very little cost.

MR. MILLS: A very proper thing to do.

A MEMBER: To teach children economy by giving them an allowance, what age should a child be when you recommend giving an allowance?

MR. MILLS: I expected that question. My answer is about ten. Some children are ready at ten. Some are not ready at fourteen.

A MEMBER: Would you consider a child of ten capable of buying its own clothes entirely?

MR. MILLS: Oh, no. Some at ten are not. That is only a general principle, but I think they should be allowed an allowance at an early age.

QUESTION DRAWER.

CONDUCTED BY MISS M. W. WATSON, MACDONALD INSTITUTE, GUELPH.

Q.—"Can you suggest a system for the collection and disposal of garbage in a city of 11,000 people? This subject is to be agitated by the local Women's Institute."

A.—Communicate with Dr. J. W. S. McCullough, Secretary Provincial Board of Health, Toronto.

Q.—"What is the national dish of Canada?"

A.—Canada is a pretty young country, and it takes centuries to settle the matter of a national dish. I do not think that Canada at this time has a national dish. The population of this country is made up of people of all nationalities, and they have brought their national tastes to this country, and we have not yet evolved anything distinctly Canadian; at least that is my opinion.

Q.—"As it appears that the Women's Institutes are advocating legislative action and assistance for the betterment of humanity in many ways, why is it that no action has been taken regarding temperance, the one thing in which woman is most vitally interested, and no steps have been taken to procure for women a vote on this question?"

A.—In the first place—and this is my personal opinion—the Women's Institute does not desire to usurp the province of any other association in the country, feeling that it has plenty of work which it can do outside of these associations. There is a very strong organization in this country, the Christian Temperance Union, whose one and only interest is in the queston of temperance. The Women's Institute leaves largely to this association the business of forwarding the cause. There is no doubt that many Women's Institute workers are also members of the Temperance Union and they can do strong work for it by their personal influence. Another point is that the women already have a vote, locally, on this subject of temperance, in the Local Option questions which are being decided in all directions at the municipal elections. Are you sure in your own locality that the women of your Institute are exercising this vote? I am quite sure myself that there are many Local Option fights lost because the women of the place did not vote. They had not enough interest in the question to vote. I know of many small places where the women's municipal vote could swing the local option election whichever way they pleased. Your responsibilities are there: make use of the powers that you have. If you think it will improve matters by gaining the legislative vote, the vote for members of the Legislature and members of Parliament, why ask for it by all means, but in the meantime make use of all the power that you have.

The next question I have is right in line with it, but from another point of view, and I am delighted that it has been asked: "The following is an abstract from the Report for 1911 of the Agricultural College: 'The Home Economic classes are also beginning to suffer for want of Macdonald Institute rooms used by various departments for men's classes and offices. Certain cherished plans for enriching the Homemakers' course have had to be given up until such time as the men's classes are provided for elsewhere. We will secure the rooms eventually, but the waiting time seems long. Does this condition still exist, and if so why is it permitted?" That quotation is taken from my share of the last Annual Report. The condition still exists, but it ought to be taken in conjunction with another paragraph of the same report. This report is made to the President and by the President forwarded to the Minister of Agriculture, who is supposed to take action on the report and lay it before the Legislature, and so bring the importance of the work being done in the College before them that they may make satisfactory preparations for the continuation of the work. The other paragraph which should be taken in conjunction with this paragraph is one which points out the fact that our girls' residence is full all the time and we have to refuse many applications because they cannot get into residence; that the farmer fathers and mothers and other fathers and mothers will not send their daughters to Guelph to board outside in the city, and in that we think they are quite right. We never encourage fathers and mothers to send young girls, very young girls, to board alone in the city. We think the residence life is too valuable for them to miss. The older girls we bother less about, if they are willing to board outside. We have class rooms enough for the people that we have residence room for. The reason that this condition still exists is chiefly the fact that the women of this country that want room for their daughters in that building do not realize their power, and have not brought pressure enough in the many ways that you might, you have not yet brought pressure enough to bear on the Minister of Agriculture to give you more residence room in the Agricultural College. Just as soon as you bring pressure enough on the Minister of Agriculture to convince him that you must have more residence room in the College, we shall get it.

Q.—"Is electricity going to be economical for the farmer's wife?"

A.—I do not know. I hope so. As it was pointed out to me yesterday, it is a long way to travel between the kitchen outfit which many of you are using to-day, which is probably not worth more than $10 or $15 outside of the kitchen range, and the $250 outfit which would be necessary to equip with electricity as things are at the present time. I am told that there is an electric stove about to be put on the market which will cost little, if any, more than the modern coal range. The question then of comparative cost narrows. The other two questions which must be asked are: Is the electric range capable of doing as much work and as satisfactorily as the coal range? The modern electric range will not heat the kitchen. This is a point of importance in the Canadian climate, especially in the winter. It really is a point of importance for at least nine months of the year. Our modern kitchen range not only performs the service of cooking but it heats the kitchen as well. An electric range to be really satisfactory, I believe, must combine the principles of the ordinary range, giving you a free open fire if you want it for heating bodies and boilers, and it must also combine the principle of the fireless cooker, thus conserving the heat of anything you are cooking, so that in the case of dishes which require long slow cooking, you may raise the dish to the required temperature and then shut off your heat and leave it to cook fire-

lessly. I believe this is possible, in fact, I am sure it will be worked out before very long. I cannot tell you that it has been worked out satisfactorily yet, but I believe they are within sight of it. Other things being equal, if you cut the cost of the stove down to the cost of the coal range, you will like electricity far better than any coal or gas stove. It is clean and when the stove is properly constructed it is controllable and you will wonder how you got along without it. There is another thing however which one has to consider: electrical energy requires intelligence to use it. It takes a good deal of intelligence to use an electric stove and electric apparatus of any kind, but I believe the Canadian women can learn to use the electric stove just as well as the farmers have learned to use their machinery, and I do think that even though this electric apparatus costs a good deal in the beginning, the women who have to do all the work of the household are just as much entitled to spend $150 on kitchen equipment as the farmer has a right to spend $150 on his farm tools. The average farmer does not think much of spending $150 on his tools, he thinks that is just part of his outfit, therefore the women must learn to use and to demand an adequate expenditure upon her kitchen tools.

I think most of you are familiar with the regular work of the Macdonald Institute: with the classes that have been going on so well for the last ten years. Perhaps you will be interested in hearing how our loan collections fare. This is the collection that we set up a few years ago and invited any one of you who had questions to ask, or who undertook to prepare papers for the local Institute meetings, to write us and tell us what subjects you had taken, and we would try to help you as well as we could. This work has grown considerably and we have had many more inquiries for assistance in the last year than we ever had before. We are not always able to answer the questions satisfactorily, but many times we are able to send a great amount of material from which the questioner can make up her own paper for the local Institute. It is not possible for us to know the exact interest of each Institute, therefore we do not undertake to write the paper; that is not what we are trying to do. We are trying to help you to do your own work. May I repeat the invitation, and say that we welcome all inquiries for assistance. Our Loan Collection is increasing yearly, and we think we can answer questions better this year than we have ever been able to do in the past. (Applause.)

MR. PUTNAM: We have another item which will occupy about 10 or 15 minutes, and it is a question which you should not miss. Professor McCready says the co-operation of the Women's Institutes is essential to the special work he is undertaking.

I think I had better put myself right with the delegates in reference to a statement made by Mr. Mills. I do not wish you to have a wrong impression. I forget the exact wording of his full statement, but there is no question in your minds but that he is in favor of Woman Suffrage, and some person has asked the question as to why the Women's Institutes have not taken up the question of temperance. In answering this question of temperance I do so as an official of the Department. I believe that the women some day will have votes, and I believe that the most intelligent voters will come from the ranks of the Women's Institute, who have acquired such a world-wide interest in the welfare, of not only their own families, but of all the people in the community.

There are some people who are not in favor of Women's Suffrage and some people think we should not meddle in the matter of temperance. We cannot afford

to antagonize anyone in the Women's Institute work. We do not want to take up these questions as an Institute. If you are in favor of temperance, work hard for temperance, but work through temperance societies, or call a special meeting of your neighborhood, but do not let it be known that the Women's Institutes stand as a body in favor of any question which is likely to be made part of a political platform, or which is likely to be a subject of controversy. Deal with these questions if you wish, but do not deal with them as an institute. I hope I have made myself quite clear. We are appealing to all classes and it is largely because we have avoided these controversial questions that this work is being carried on so successfully. We are as an organization supported liberally by the Provincial Government, and it may be that there are some men connected with the Government or who will be members of Parliament who are not in favor of Women's Suffrage, and if it were known abroad that the Women's Institutes stood for Women's Suffrage, we might lose the influence of some members of Parliament.

ADDRESS.

By Prof. S. B. McCready, O.A.C., Guelph.

I want to tell you a few things regarding the condition of the schools in Ontario and enlist your support in making them better. I was appointed a year ago by the Government of this Province to the position of Director of Elementary Agricultural Education in Ontario schools. That is, I have been put into a position to promote the betterment of the rural schools, and during the last year I have had an opportunity of going up and down through the Province learning about the conditions that prevail and finding out ways and means by which we can make them better.

I consider this a great privilege to be able to speak to representative women on behalf of the rural schools. I have been busy at Teachers' Conventions lately, having attended nine of these in different parts of the country. At these I suppose I addressed 1,200 teachers. I fell quite safe in believing that I cannot help my cause forward better than by telling the women of the Women's Institutes about this work. The greatest need I feel in connection with this work is to get some kind of public sentiment organized behind it. It is not so much getting the teachers educated to know what they ought to teach as it is getting the people educated to know what they should want. If we could only get the people educated to know what they should want, the problem would be solved. You can get anything you want done by the schools if you support it and pay for it. Taken on the whole, there are no better country schools in the North American continent than we have here in Ontario, and there is no province or no state with better teachers than we have; nor are there any country schools better supported by public money, nor better supervised than here in Ontario. We have a splendid organization to do good work, and it is up to you, so far as your influence goes, to have the schools do this work. The teachers are being prepared for it in the Normal Schools and in the Agricultural College. We have trained in the last nine years about eight hundred teachers in the Agricultural College for this special service in the schools, and I am sorry to say that a great many of them have not been given encouragement to take up the work.

I want you to notice this about your schools—it may be your own school, or it may be one nearby—that there is a danger ahead in this Province of Ontario

for the boy on the farm. He is the one who suffers most on account of the shortage of labor; if there is any job to be done at home, he is kept away from school. The result is that many boys in the country are not getting a square deal; they leave school about the third book. The schools are there, well equipped and with good teachers, but the boy is kept at home. Perhaps he is sent back to school for a short time, but he finds himself behind and the result is that he makes excuses to stay home. And we are in danger of having a great many boys who are not as well educated as our girls. I have seen many schools where the senior classes are well filled up with girls but with few boys in them. The girls are going into the high school work and the advanced classes and are being better educated than the boys in the country. And naturally such are not seeking mates in boys of the country because the boys are not educated as well as they are.

Let me suggest that you organize some sort of a committee in your Women's Institutes or a School Club which will stand for better things in education in your community. You have to get busy educating public opinion in that direction. You can help in that respect by getting your trustees to appoint a truant officer, who will see that these children are kept at school.

Another thing I notice in going about this Province of Ontario is that the school is not getting a square deal in respect to the many improvements that are going on. You go through a district where you will find good fences and good barns and nice lawns, and everything looking as if the people were proud of their homes and were progressive, and you come to the school house and it is a "dirty disgrace" with its exposed out-buildings, its poorly kept grounds, its neglected fences and its general lack of care. I do not say that we are not making progress, but too often you find this other thing. The schools inside are better than outside, because the Government in its regulations has brought it about through their system of giving grants that the schools must be well kept with blackboards and libraries and seats: but the schools are not supported by the general public about them as they should be.

I contend that if you are going to have pupils favor education, we must make them proud of their schools. I do not see how anybody can be proud of some schools that we have. Certainly the children could not be proud of them if the people are not interested in keeping them respectable looking.

Another thing which has been borne in upon my mind in my twenty-five years' experience as a schoolmaster, is that of all the workers in the world for the progress of the world, there is no one so isolated as the country school teacher. She is much separated from her kind. Seldom does she see anybody who is much interested in her work. The inspector, of course, has to come twice a year, but very often his duties necessitate his criticizing things. She gets to a teachers' convention once a year, but in the routine of her day's work she is cut off from associating with anybody who is intelligently interested in her work.

A MEMBER: Can you justify that? I speak as an ex-teacher and a farmer's wife. I think that the teacher can find her kind amongst the people in the country.

MR. MCCREADY: It may be true that for this isolation the fault may be partly with the teacher; it may be entirely her fault. But the fact remains that the country school teacher is an isolated worker.

A MEMBER: The teachers who are the best are the ones who visit the homes.

MR. MCCREADY: If she is invited to the homes, she will likely come.

A MEMBER: My experience is that the teachers will not visit the homes in the school section. And it is these teachers to whom the boys do not like to go to school.

A Member: The lady does not understand you when you say that the school teacher has no one who is interested in her work and that she has no one to talk to about the school work in the community. Of course parents must be interested but they cannot talk about it. They cannot understand a teacher's problems and tasks.

Mr. McCready: The farmer can stop his horse and talk with his neighbor over the fence about his work, but the school teacher too often has nobody in her neighborhood to talk to—she is an isolated worker in a great many cases. You take the minister, for example, in a country place and he will have a Board of Managers and he will have a Women's Auxiliary and a Young People's Society and a Foreign Missionary Society, and all these agencies at work to advance the cause which he is paid to promote and lead. Now the school teacher has nothing like that, and I am suggesting that she might get it in the Women's Institute. The only co-workers she has in her work are the Board of Trustees and most of you know that very often the Boards of Trustees do not work as partners with the teacher.

A Member: I think that the women of the Institute find that the school teacher does not join the Institute. I am an ex-teacher of thirteen years' experience, and I must say that I had many who were very much interested and who were very sympathetic, but as for the School Boards, I cannot say that I always had very great sympathy from them.

Mr. McCready: It does not prevail in a great many places. I am positive the condition exists widely; that cannot be gainsaid.

A Member: Would it be possible for the Women's Institutes to interview the School Board and ask permission for the teacher to attend the Women's Institute meetings?

A Member: We have invited them all to join our Institute and not one has joined yet.

A Member: As a teacher of former years, I would like to say a few words. I think the teacher's work is one where she should be interested in the parents as well as in the children, and I think she ought to visit the homes. I can say that the experiences I had when I was a teacher were very pleasant and I was never used better. My husband is a member of the School Board and has been secretary-treasurer for twenty years and, as far as we reason it out, we find the teachers somewhat different now from my time. We cannot get them to associate with the people. I feel sure I am not saying anything wrong, but they seem to be of the opinion that they are a little better than the farmers or their daughters.

A Member: The school teacher in our little village is a member of our Institute and takes an interest in our work.

Another Member: We hold our meetings on Saturday so as to enable the teacher to attend the meetings.

Miss Campbell: I am an ex-teacher too, and have taken a great deal of interest in visiting the schools on my trip, and I have invited the school teachers to come to the meetings, but they cannot spare the time as the meetings are not at the right hour. If it could be arranged to have the meetings from four to six, I think nearly every teacher would be delighted to join the Women's Institute. Further I would like to say on this school question that a number of ladies asked me what they could do to improve the schools. I went down to the school and remained about two hours with the teacher. Then I went to the Women's Institute meeting where there were about fifty or sixty ladies present.

I said, "Ladies, if you come down to the school and drink out of the tin pail and cup that the pupils are drinking out of every day, I will tell you what you can do for the school."

A MEMBER: We have a teacher in our family who is teaching in Muskoka, and I imagine she has not been invited to join the Institute there.

MR. MCCREADY: And it all goes to show that the poor teacher is isolated and sometimes falls into pleasant places and sometimes does not, and that they are without associations with people, generally speaking, who talk with them about their work.

Let me say that in organizing my work, I am looking forward to some scheme or propaganda by means of circulars, and I am going to have all the secretaries of the Women's Institutes on the mailing list. So you will know what is going on in the Province and will get suggestions for the improvement of your schools.

My other observation is that the education as represented by the public school, which should be one of the commonest human interests, is a matter that has had very little attention paid to it in the press or by people in general. And I suppose the press represents the interests, the desires or the needs of the people. If the training of children in schools could get as much attention in our press as society, so-called, or sport, or business, or even cookery or travel, we could have a great deal more interest taken in the work of the schools by people. So far as I know, there is only one paper that has a department devoted to schools, and that is the Montreal *Herald*. I know a number of our papers interested in agricultural matters especially, that have had chances of getting information—regular supplies of short articles about schools—and have not taken advantage of it. There does not seem to be any desire on the part of those who issue the papers to cater to the schools' affairs. There are isolated articles, of course. Sometimes there will be a great flare-up in some paper about how the schools are going to the dogs, but there is no systematic consideration of the work of the schools.

There is a little exhibition at the Fruit Show showing a model layout for a country school. It represents an acre of ground—the regulation ground for a school. The back half acre might be given over to the bigger boys as a playground for football or baseball. I believe that one of the neglects of the country school is the play side of education. The country children are not being trained to play properly. I have seen some deplorable things where the big boys and girls tumble together in a game that has no sense about it. The big boys should play football or baseball or some such game. Then at one side of the school, we have suggested that the kiddies might have their playground and there would be a swing and a teeter and a sand box to entice them to school. And there would be a space where the bigger girls could have croquet or tennis, or whatever game might be played by girls. If it is a small school where the girls and boys must play together, indoor baseball played outside would be the best game they could play. Girls can play that just as well as boys. There might be a lawn tennis court which could be kept tidy with the lawn mower that is supplied to the schools and the children could use this on Saturdays as well. Then we show about one-twelfth of an acre which might be given over for a beautiful lawn; and I do not know of anything that would be better in an agricultural district to train children to be proud of their school than a beautiful lawn. A piece of ground, maybe a twelfth of an acre at the front, could be devoted to shrubbery and lawn. Then the teacher and the Women's Clubs associated with her might go farther and put in some flower beds, and the children

might be trained to grow flowers; and there might be hanging baskets and window boxes.

Or they might go one step farther and devote a small piece of ground to the cause of agriculture. Every country school in Ontario might be in a sense a little agricultural college or experimental farm. It might have a small piece of ground in which simple experiments might be carried on by the children for educational purposes. And these might be of much importance to the community. For example, we will send out free to any school in Ontario two varieties of the best kind of potatoes and some boy in the fourth book could look after that plot and give out general information to the whole community. He will become known as the potato experimenter and may be the means of introducing into that neighborhood a better variety of potatoes than ever grown there before. We will send select seeds of oats, mangels, barley and other field crops. We will send four dozen seedling trees to train the children to grow trees. The assistance is at hand if the schools will have it, but in too many cases the teachers say the people do not want it. Of course in some cases the people want it and the teacher won't give it.

This improvement of rural schools, which we are aiming for, will come through getting the people to believe that the schools are "worth while." When we get the farmer to see that it pays to send his boy to school, and that the school can teach that boy things that will be of benefit to him for the rest of his life it will be an easy matter to get schools improved.

All the schools in Ontario are getting help in advancing this teaching of agriculture. Every school in Ontario received a chart on alfalfa last spring, and it is the best information on alfalfa that can be found. I know of a number of schools where the teacher has used the chart as a reading lesson. One teacher said she had asked the children to bring in samples of alfalfa and one boy brought in an alfalfa plant having a root three and a half feet long, and he was sorry the root had been broken off at the end. He was so keen after facts regarding this plant they were studying at school that he would dig up a root three and a half feet long! He is a good subject for agricultural education in the school! The thing is easy, I believe, if we can get the people to want it and help the teacher to bring it about.

You have taken for your motto "For Home and Country." Let me suggest that there is something that comes in between home and country, which is deserving of your attention too. Our public schools are the homes for the children for six hours in the day, five days in the week, forty weeks in the year, and about eight or nine years of childhood. For the time being the school is the home of the children and the teacher is the cildren's mother. There is not a school that should not be as good as the average home in its district. The school stands in the position of parent. It is doing the parent's work in educating them. Then again, it is the link between home and country—the hub of democracy! The salvation and safety of our state depend upon the work of the public schools, and you will do well to include the schools in your Institute work! I thank you.

FIFTH SESSION.

FRIDAY AFTERNOON, NOVEMBER FIFTEENTH.

Mrs. William Johnston of Athens in the Chair.

QUESTION DRAWER.

CONDUCTED BY DR. A. BACKUS, AYLMER.

Madam President and Ladies: I will be as brief and to the point as possible in answering these questions.

I would like to say a few words concerning the work in the northern part of the Province where I have lately visited. It certainly is a great inspiration to visit a district where the organizations are progressing as they are there. I think of all the conventions I have ever visited, that at New Liskeard was the most successful, from the fact that they adopted business principles. That convention opened in the morning at ten o'clock and worked until about half past eleven at night. It is the only convention I ever attended where there were fourteen branches, and thirteen of them were reported from. I find in some of the conventions the branches are not reporting. Every one of the branches up there are alive, and they take up the most vital questions of the day, just as we are taking them up in this great convention in Toronto. Of all the wonderful conventions we have ever had, it seems to me this is a step in advance of any. When we listen to such an address as we did from Mr. Mills, concerning women and business, and the attitude he takes, it shows that we are not just walking, but we are positively running and doing hurdle races.

Q.—"How can we get medical inspection of schools?"

A.—Just go to work and get it; insist upon it. You will have to interest the members of your school board, and I think January is near at hand and it would not be a bad idea to put some women on the school board if you want the sanitary conditions improved in your school. When you get the school board interested in medical inspection of schools, you have but to communicate with the head of the Department of Education, and I think your petition will be granted, provided you have enough people interested.

Q.—"Are flowers injurious to the health in a sleeping room."

A.—Y-e-s, yes. Now you would think from the theory that is advanced about the flower taking up the poisons that exhume from the breath, that they would be of benefit, but our theories and facts are very widely different when we come to put them to practice. Flowers in a sleeping room are very injurious from the one fact alone that you place them in the window, and immediately you do that you obstruct the opening of that window and the proper introduction of good ventilation. You have to have earth in the flower pot, and in the earth you have to have a certain amount of fertilizer. I have never yet seen a fertilizer that was sweet and fragrant or that was the proper thing for us to have to smell, and that is the second reason why flowers are injurious in a sleeping room. You have to introduce water into these flower pots, in order that the roots may be nourished, and that is a third reason. Because from those pots of flowers you are introducing germs that are far from wholesome to the people sleeping in the room.

Q.—"Will some of the Doctors say whether catarrh is curable or not?"

A.—Catarrh is curable and it is not curable. If you place yourself in proper conditions and surroundings, catarrh is curable. If you just take something that is advertised, some patent medicine, and use it according to instructions, you will not likely be cured, as I have never yet found a case of catarrh that was curable by patent medicines. I have treated diseases of the middle ear and treated certain conditions of the mucous membrane of the throat and nose and I have seen catarrh perfectly cured—cases that had been pretty bad too. Sometimes you cannot cure catarrh in this climate and it is advisable to seek a drier climate because there are certain climates where catarrh is unknown. In this climate where we have so much cold weather, it is sometimes difficult to cure catarrh and it may go farther and farther until we get a case of tuberculosis. When a case is severe, it would be advisable to seek a drier climate such as Colorado, Arizona, California, or even our Muskoka is a good climate.

This is a most pitiable question: "Is it not very advisable that there should be a law in Ontario compelling children to support and care for helpless parents?"

There is a law existing to-day which says, if there is in any person's home an old and helpless person, whether they are parents or not, in whichever home they may be at the time, the people of that house are compelled to support them. You would think it would be unnecessary to have such a law. The law we need most is the law that will pension mothers, a law that will entitle everyone who has contributed healthy citizens, to the country's support. That is the best kind of law we can have, and that is the law we will have eventually. It seems there must be something wrong in the parent when there should be a law. I do not believe with an educated mother or father that this question would ever arise, because I think children that spring from great women, mothered by a great and intelligent woman, never would consider for a moment but what it was necessary for them to support their parents. What we want to agitate is, what motherhood means to the state and nation and to understand, each one of us, that the woman who has borne children for the nation is a person better fitted for a pension than the man who has killed a few enemies. I say better than a law to compel children to support unprotected and helpless parents would be a law that would pension mothers so that they would be independent and self supporting. I thank you. (Applause.)

Mrs. H——: I am not here to speak on business methods or demonstration matters, just a few words on co-operation—a few suggestions so that we will carry on the work more successfully. I am here to learn as well as to suggest. Now understand me, what I state applies only to institutes which have many forces to fight against that are crippling to the society as a whole. I have been an institute member for over four years, my heart is in the work and I am thoroughly in sympathy with its aims and objects and I think it is one of the best organizations in Canada to-day. Now what I want to say is this—there has been so much said about members taking an active part and so little accomplished along these lines, what are the causes and how are we to proceed to overcome them? To my mind the cause of this condition is lack of co-operation. There should be a hearty co-operation between officers and members; we should be more united. Without union there is no strength and we cannot accomplish anything. We are a unit to the whole and one cannot act without the other; and to overcome this evil, each member must feel the responsibility of taking an active part. *It is not what we have but what we share.* Cultivate your talents and develop your resources and get interested so that you will be a force in your branch, to help along the good work. Officers are there to inspire, enlighten and encourage, not misrepresent and discourage, as is done in some of our branches, and they ought to feel the dignity

of their position and court the reputation of their particular branch and incite the same in their members, and when any trouble arises bring the matter before the members, explain the nature of the trouble and have the difficulty detrimental to any society. It spreads scandal and invites criticism and is degrading to a society which has for its object the uplift of home and country. Also practise friendliness and sociability. We all meet on one common level, our neighbor as ourselves with one object in view, to raise the standard of health, efficiency and morals in our people. This covers a vast field of work for us as institute workers, and what a noble work we could do if we applied ourselves. The institutes on a whole have made rapid strides, but how many more members could we add to our branches if we would carry on our work as our able and efficient superintendent has said, and as our Departmental representatives have tried to outline for us.

In conclusion, if you see any members who are anxious to carry on the good work and try to carry out the precepts of the Institute, do not criticize or discourage them. That is against the principles of our Institute and also, it matters not what our duty is, do it conscientiously and faithfully. Be true to ourselves, and as a result we will be true to others.

Mrs. A. T. Watts, British Columbia: You have heard several times that in British Columbia everything is big; and so you will readily understand that in ten minutes it is entrely impossible to give you any idea of the work there, especially as there is another subject on which Mr. Putnam wishes me to say a few words. I hope those of you who want to know more of the Institutes in British Columbia will send to the Department of Agriculture for our bulletin, and further, that each branch Institute will do us the kindness of sending us, sometime during the year, if possible, one of your programmes. If it is sent in care of the Department of Agriculture it will be placed at the disposal of the different Institutes. The programmes are even more help to us than the hand-books from the Department. The programme is the expression of the work done in each locality, and the combined efforts of those localities is set forth in it, showing us what the women of Ontario are doing, and if you will do us this kndness we wll be very grateful.

In British Columbia our organization is somewhat different from yours in that, although we have a superintendent of Institutes he is also the Deputy Minister of Agriculture of the Province, and he has delegated to an advisory board of four women much of the work of the Women's Institutes. Of this Board I am secretary, and my presence here is an evidence of the interest the Government of British Columbia has taken in the Institutes throughout the Dominion.

Members of the Board from different parts of the Province, and each in her own particular section, do the organizing, as I presume your District Secretaries do. But as British Columbia is a sparsely settled community, the Government does a great deal for the institutes. The Government gives a grant of fifty cents per member, so that with the annual membership fee of 50c., we have $1.00 a year for each member to start on.

The institutes there are occupied much with the same problems as you are here, but I shall not deal at all with these, except in one or two cases where we perhaps differ. So far, we have not had Demonstration Courses, but we have had, and are having, every fall and spring, lecture courses extending over two months which are paid for by the Government. The Department also encourages the institutes with different competition prizes for the best papers submitted by the members, the best programme and the best kept set of Institute books, and each

secretary is liberally paid by the Government and then she has no excuse for not doing her work properly.

We hold flower shows under the auspices of the Institutes and we are stimulating the growth of flowers in this way in all localities. One of the last three demonstration courses we gave was for girls and women in the country, so that they would find ways of earning money in the country, in the belief that what takes girls away from home is not the want of money, but the want of having something to stimulate their interest. We want them to go into commercial bulb growing and different horticultural pursuits, so that there may be an avenue in the country for those who wish to earn money. We send lecturers who deal with this subject and we offer prizes and encourage the Institutes to co-operate in buying bulbs and seeds, and with the prizes offered by the Department, we hope we will get very encouraging results.

Our dressmaking courses have been very successful; the work has been so far paid by the Department, but no doubt many of the institutes will take advantage having local courses and pay for them themselves. The appliances used in the dressmaking are supplied in part by the Institute and partly by the Department.

The speaker next assured her hearers of the deep interest she took, not only in the British Columbia Institutes, but also in stimulating nation-wide effort among the various provinces. Largely through her effort a national organization of Women's Institutes was formed at the Lethbridge Conference held in October. We have adopted your motto "For Home and Country" and your badge as a compliment to the work you have done, and we have asked the other Institutes of Canada to adopt your motto and badge. We shall be able in the years to come to co-operate in national questions—the education of the country girl, the improvement of the rural school, sanitation and hygiene, the supression of the publication of obscene literature. National questions we will now be able to handle from a national standpoint. And this message I leave with you, it is no longer the Women's Institutes of Ontario but it is the Women's Institutes of Canada.

Miss Drummond, Y.W.C.A.: I wish to thank you for giving me five minutes to tell you what the Young Women's Christian Association is trying to do to meet the needs of your daughters and sisters who come to the city to earn their own living. In Toronto alone there are over 50,000 self-supporting women and girls and about 20,000 of these are away from home. Many, of course, are cared for, but the great majority are absolutely without a home and are living in dreary rooms and picking up meals wherever they can. Many of them are absolutely unprepared for the conditions they meet and the problems with which they are immediately confronted, and in many cases the struggle for existence and respectability begins. If the mothers and friends only knew of the dangers in the city, no young girl would be allowed to leave her home until it was definitely decided where she would go in the city when she arrived and she certainly should be forewarned and fore-armed before leaving her home. Unsuspicious girls are being secured by offers of good positions and good boarding houses and they are being tracked by those who are lying in wait for them.

It is the aim of the Y.W.C.A. to stand by your girls until they become adjusted to the new conditions and to help them to make the most of their lives. In Toronto there are seven homes which will accommodate 400 girls and over 5,000 pass through these homes every year. It has been the policy of the Association never to turn a girl away without making some provision for her, whether they have money to pay for it or not, but now we have a new home in Alexandra Gardens

where we pledge ourselves to keep room for every girl who is looking for employment, and to help her find a suitable boarding house. No girls need come to the city and not find a door open for them.

We train girls to go out and help others. The Association also carries on a large public work along educational lines. You know what can be done here, and perhaps you have seen the sanatorium where 500 girls take lessons in life saving. We have St. John's Ambulance courses—First Aid and Home Nursing; we have dressmaking and millinery and cooking courses, and we have literature; whatever the girls want they can get here. The social side is bright and well developed, the parlors are always open and in the evening there are a relay of hostesses to make the girls welcome, so that no girl need be in the city and not have a friend. It is very much easier for the young men to make an entrance to the homes, but we believe the conditions are improving and our girls are going to have a better chance than before.

Thousands of girls are reached through the industrial department. We have an industrial secretary who holds noon meetings and organizes classes and clubs wherever it is feasible. The Travellers' Aid Secretary gets into touch and helps at least 300 girls every month at the station. The Cafeteria provides refreshments and reading and rest rooms for the girls in the down town district. But the Association felt that no one organization could ever reach the girls as they should be reached and they called on the members of other organizations to co-operate with the Association, and as a result of that the "Big Sister Movement" was organized. This Big Sister Movement is going to do more to solve our social problems than anything else. Let me say that we have over 500 girls in the city who have pledged themselves to be on the alert to give a touch of love and sympathy to other girls wherever they may find them, and to be on the lookout for girls who are lonely. I suppose we have no idea of the unutterable loneliness of a girl in a great city. We are continually, in our social work, running across girls who have been in the city three or four years and have never had any cause to believe that anyone cared what became of them.

I am appealing to you to-day for your sympathy on behalf of the work of the Young Women's Christian Association which is organized almost altogether for the benefit of girls who come from outside localities, and I beseech of you, safeguard your girls, for in them is the hope of our country. (Applause.)

LAWS RELATING TO WOMEN AND CHILDREN.

Mrs. H. W. Parsons, Forest.

Madam Chairman, Mr. Putnam and Ladies: I am only going to speak briefly on some points that concern us as women, as home makers and as mothers, that are not altogether what we might desire. Now I am not finding fault with anybody—these things have come down through generations and centuries we might say. And the law we are now living under in Canada is in some respects just the Old Norman Law, and these things have been on our Statute Books for ages. Probably our mothers, our grandmothers and possibly our grandfathers did not know them simply because it has never been necessary for them to inquire into these matters. We are living in an age when a woman goes out into the world to meet life's conditions, in an age when our daughters leave home for economic

reasons to take up their way in life. In our mothers' days it was not considered an advisable thing, hardly a respectable thing, for a girl to earn her living.

To-day, we say, "It is my daughter's right to have some means of employment by which she can make her living if she wants to." We of this 20th Century have to look very closely to the laws we are living under, and if there is anything that we could ask for betterment in let us do so.

One point is the age of marriage. In Ontario parties may marry at the age of fourteen; in Ontario parties may marry *without consent* at the age of eighteen. The other Provinces, with the exception of New Brunswick and Manitoba, have decreed that it is not wise for persons to contract marriage without consent, until twenty-one, thereby showing their wisdom. Would it not be wise for Ontario to ask that the age limit for marriage without consent be raised to twenty-one? Until a man is twenty-one he is considered an infant in the eyes of the law; he cannot handle his property unless particular specifications allow him to do so. If he is left $500 he cannot touch it unless it happens it is so willed. If a man has been left property, it is left under guardianship until he is twenty-one. It is exactly the same with a girl—she cannot handle her property until she comes to the age of twenty one; she has no freedom except to get married.

Now ladies, if your boy of eighteen has not enough common sense to be able to manage his property and his money, I want to know where his common sense is going to come from to manage a woman. He cannot provide for her according to the rate of living to-day. Do not we know, looking back over the years, that we did not really realize what life meant when we were eighteen? Do not we realize that the girl in whose company we went to school, who married at the age of eighteen, was probably only experiencing a passing glamour of love; she did not realize all that her soul was capable of? A woman is not physically fit to be a wife and mother at the age of eighteen, then why not let us ask that the age limit without consent be raised to twenty-one in Ontario as it is in the majority of other Provinces?

When you are married and have become a mother, where do you stand? Supposing you have a daughter who is not eighteen and she wants to marry, she has to ask somebody's consent. Is it yours? Oh, dear no; you have nothing in the world to do with it. It is her father only she has to ask, because in the eyes of the law her father is the only parent that that child has. You do not figure there at all. As a married mother you have nothing in the wide world to say as to your child's education, the religion it shall be brought up to, its outlook on life, its preparation for it, neither are you asked to give your consent if your child wants to marry before the age of eighteen. We do not want the balance of power, but we do want a say. You may say "I have all the say I want in my family," perhaps you have—we do not all have. It is the mother that Nature says shall bear the child and shall look after the child and be so closely connected with its upbringing, and it seems to me that we do try to do what we can for the children, and they look to us for their instruction in their early years. Then why not allow us at least an equal guardianship with their fathers? Mothers, you know what the bringing up of that family means to you, then surely it is not a question of whether you in your own particular home can have that say, it is a question of whether it is not the right thing for every mother to have what you have.

In regard to the position of the father having the sole control of the child, I will give you just one instance; possibly you could not find another like it, but it is sufficient to show you that what can happen in one case might happen in another.

A man came from the Old Land to this continent. He married, and not long afterwards he realized that he had developed consumption and his days were numbered. He made a will, and he willed his unborn child to his parents in the Old Country to be brought up and to be educated by them to the sole exclusion of its mother. There was nothing wrong with the prospective mother; she intended to be as good a mother as you. He died before his child was born. That child was hers by Divine law, but there was not a law that could give that mother her baby. That child was taken from her and was brought up by its father's parents, because the father was the only parent of the child; he willed away, what he had a right to will—his property. This is an extreme case I allow, but I give you that extreme case to show you where you stand in regard to your children. The law still stands that the father is the only legal representative of the child—that is of the child born in wedlock.

Take the child of the unmarried mother, and what are the conditions in regard to that? No man figures there in Ontario, and no man wants to. The mother of the illegitimate child is the only parent. She bears the child in shame, and she not only has to keep herself, but she is responsible to the State for the life and keep of that child until it is fourteen years of age. We say nothing to the man—in Ontario at least. In New Brunswick they have legislated that the father of the illegitimate child shall pay $100 at the request of the House of Alms Commission. In Nova. Scotia the putative father of the illegitimate child is responsible for the keep of the mother for a certain period, and then for the keep of that child until it is fourteen years of age. If New Brunswick and Nova Scotia can legislate and can do something to keep down this crime of illegitimacy, why does Ontario do nothing? Ladies, that is a question for you. I have gone through Ontario enough to know that this sin of illegitimacy is in all our districts. You cannot go into many large districts in Ontario without coming across some appalling, unfortunate and distressing story of some girl who has been led to do what is wrong. She comes home to her parents perhaps with her young child, shamed and disgraced, and the man goes scot free. He does nothing towards righting the wrong he has committed; he does nothing towards keeping the child he is responsible for. Cannot we do something to help cases like that? Is it not time for the Women's Institutes to look to those unfortunate sisters whose lives have been blighted. "Have I not a duty towards my neighbor?"

There is another question I ought to bring before you. Can we not ask that the age of consent be raised in Ontario? It was raised three years ago—from fourteen to sixteen years. Why not ask for eighteen? Don't you want your daughters better protected? Mothers, there are so many of you here from the rural districts who are sending your daughters into city conditioons of which you can have very little idea. You need safeguard your daughters to the utmost limit by what you tell them, by how you advise them, by what you do for them, and by law. The age of consent is the age at which a girl may consent to the dishonor of her body and no man be held responsible for the crime of rape. In Toronto there are cases over and over again of young men and women living together—no ceremony whatever, either legal or religious having passed between them. Ask a lawyer if it is legal and he tells you "No"; ask him if it is illegal and he tells you "No." What are you going to make out of it? We have had glaring stories told—I do not know how many are true, but I know a great many of them are of things that seem to be almost unbelievable happening to girls in respectable homes and of respectable parentage. Some of you have these conditions brought so strongly before you

right in your own communities, and one wonders. Do the trivial things matter? Am I responsible to my sisters who are going out into life's way and meeting with such awful things to-day?

You remember the resolution Miss Hotson brought forward and which you passed unanimously about the housing of feeble-minded women. If you will make inquiries you will find a severe penalty is imposed on the father of an illegitimate child by feeble-minded woman: you will also find that the word of a feeble-minded woman is not taken in court of law. I had occasion to make some inquiries about a feeble-minded girl. She was just twenty, and was the mother of three illegitimate children; when we came to inquire into her case we found we simply could do nothing, because there was only her word as to who was the father of her children and her word could not be taken in court. Nothing could be done—three more illegitimate, feeble-minded children, three more to go into the House of Refuge—three more to go on the street—three more an expense to our country.

Just a word before passing on to where we stand in regard to divorce. I am not advocating divorce. In Ontario we have no Divorce Court, and anyone requiring to be loosed from bonds that are undesirable to them has to appeal to the High Senate of Canada, which is a very expensive affair. Have you not known of a case where divorce was desirable? Have you not known of a case where a poor woman was doing all that she possibly could by her own exertions and work to keep the bodies and souls of her young family together because she had a dissolute husband? It is impossible for that woman to be freed, because she has not the means. A Divorce Court in Ontario would mean that divorce would be permissible to the poor as well as to the rich. There is no Divorce Court in Quebec, but Quebec says if a man desires separation he has simply to prove that his wife on one or more occasions has been unfaithful to him; but if she desires separation she has to prove not only that he has been unfaithful to her, but that he has been habitually so, and that he has brought the partner of his guilt under their common roof and lived with her as such. Now is any man so far lost to every sense of decency that he will dare to bring that woman under their common roof?

The Quebec law practically says a man may be a disgrace to his family and to his community, but as long as he keeps that other woman in the background they will say nothing about it. Is not some of the fault ours, ladies? These things are permitted, and a conscience has not been aroused in regard to them. What we can do is to create a conscience, arouse the good men and good women to think of this question and see the womanly way, the best way in which to put our resolutions forth and ask that some of these things may be righted for the sake of those who come after us.

In regard to property, Mr. Mills explained some of the points this morning, so I will not go into them. The question of that Dower Act came up. You know what the Dower Act of Ontario means, at least most of you do. If your husband die without a will it gives you one-third or one-half of his property. How many of you started with perhaps a heavy mortgage on your farm. You cleared that mortgage off. The years passed and your husband felt that labor was so hard to get and he was getting up in years—so he decided to retire to the town or the village. You parted with your dower by signing away your right to that one-third or one-half of the farm when the property changed hands. It was right that you should do so, otherwise the purchaser could not have a clear title to that property. Probably he rented a small home and invested the money he had got from the sale of the farm, but as he had taken his money out of the landed estate and invested it in some

other way, do you realize that if he died without a will you might not get a cent? That Act just pertains to landed property. Who helped to make the money to pay the mortgage off? Who was economical and sacrificed in the home so that the yearly payments were met when they became due? Did the man do it all? I think we can ask for some sort of provision for the family to hold good for money as well as land. A Family Maintenance Bill would provide, no matter what the man's occupation in life was, whether he was a farmer, business or professional man, that his family should by law have provision made out of the money that was left, and that no man, as Mr. Mills pointed out this morning, have it in his power to will away every penny he had to somebody else.

We have heard a good deal about the school question to-day. We have heard what might be done in a model school, and we have heard in some places what they are doing to make their schools all that is desirable. You have it in your power to do a great deal there. The question is asked over and over again, "Why cannot women have a vote?" You have a vote there, but you are not using it. Every married woman has a vote in regard to the school question if she has property registered in her own name or if she be earning an income over $600. Why has our Legislature put such a bill as that on our statute books? Simply because it recognizes the closeness of the school to the home. It recognizes that the one thing must be connected with the other. While your young children are spending their time in the school haven't you some right of say in it? You have, but you are not exercising it. Every married woman with her husband living may vote on the school question, and she can run as School Trustee if the community desire. I would ask every woman who is here to-day to take some personal interest in the school in her community. The school matters! I think I would like to see a woman on every School Board. Glance round the School Boards through the country that you know of: they have a bachelor from the fourth concession and an elderly man whose children are married and away, then there is a third, a young fellow, and they put him on because his father did good service—none of these three have a child. Then they think they are there to keep down the expense. If there is one place in the community where the expense should not be kept down it is in regard to the school. We want outlay, good wise common sense outlay. That school is going to make your child or mar it. That school is going to give your child its outlook on life. What ideals can your child have of beauty, of cleanliness and comfort if you do not have more of those things in that schoolroom than they have in nine-tenths of them? I can speak of a good many school sites and grounds that were not altogether beautiful spots. They were generally the barest spots in the whole countryside. Beautify, clean up the grounds, clean them up inside and out. Have them a place of delight, a place of comfort, and you have done something good in your community. Then put up the best woman you have in the community, elect her as Trustee. The best womanly woman you have, a good motherly woman, who understands things, and see if she cannot bring a better state of affairs and make them see how very important it is that they should spend generously for the betterment of the school.

One other matter. A statement was given yesterday, I do not remember by whom, that 50,000 indecent post cards were in circulation in Ontario. Be on the watch. You can do much to stop the objectionable printed matter that is broadcast throughout this country. What is it done for? Simply to undermine the purity of our boys and girls, and more especially the boys. If you find any printed matter is sent in as a sample copy to your boy I advise you to open it. Had time

permitted I could give most appalling details of things that have happened in our country towns and villages in the Province just through that objectionable printed matter. If you come across anything that is undesirable do it up and redirect it to the Postmaster-General at Ottawa and send him a little note by the same mail telling him what you have sent, where you found it, to whom it was addressed, and give your name. You may think that you will land into all sorts of publicity; you will not. He takes the responsibility of that case and the investigation of it into his hands. If you do not care to do that the Women's National Council will undertake the matter for you. I have been on this committee for some time in connection with the Women's National Council, and I know the appalling conditions and the extent of this work, and how it is carried on. You do not know when a young child hears an insinuating remark or a questionable story whether it will stick or not, but put before that young, growing boy a printed page, vile and disgraceful, and it does stick. Mothers of boys, I think you know that. Then you want to safeguard at every point, safeguard the girl who is going out into life, and safeguard the boy as well. Let us safeguard by working for amendment. If you feel yourselves that things might be better, there is one simple way that you may do it. I do not want you to be Institutes that are going to rise in indignation and get on housetops and rage and rave about conditions such as they are, and say every man is a blackguard; we know it is not so, but what I want you to do is to consider seriously the various matters that come up on questions of law, and if they appeal to you as requiring betterment, then draw your resolutions, put them to the meeting and get the voice of the members. If you find it is justifiable, send the resolution to the General Secretary of the National Council of Women as an expression of opinion of your Institute. I agree with Mr. Putnam in what he said this morning: we must realize that we are not the Ontario Legislature; we look to them for the greater part of our support; we came into existence under their championship, and we owe them a tremendous debt of gratitude, and when it comes to taking up matters of party I think we should be very careful how we deal with them. Every question that concerns the home we may discuss with propriety. (Applause.)

CONTAGIOUS DISEASES AND NEW MEDICAL HEALTH ACT.

Dr. J. W. McCullough, Toronto.

Madam President and Members of the Women's Institute:

I do not intend to give any set address, because I have brought the moving pictures of the Provincial Board of Health, and they will prove more interesting to you than anything I could say; it will be easier for me and it will be easier for you.

In the matter of the prevention of disease the women of the country are the greatest factors in spreading knowledge about the disease after they have learned it in such an institution as yours, and secondly in caring for those who are afflicted with illness.

The lady who preceded me, in her address this afternoon stated what is a fact, that is, that the women of the country no doubt bear their share, and perhaps more than their share, in paying off the mortgage on the farm, and they bear more than

their share in taking care of those in the family who are sick; and so this question of the prevention of disease is important to you.

I want to speak about some ways in which infectious, or contagious, diseases are carried, and I thought I would give you first a picture showing one source of infection, namely, milk.

The views presented covered the sanitary production of milk, the part that flies play in infection, etc.

By request the speaker explained the work which the District Medical Health Officers are prepared to do.

You know, at the last session of the Legislature, the Province of Ontario was divided into a number of districts, five of which are in what we call old Ontario and two in the newer portion. To each of these districts trained officers of the Medical Health Department have been appointed. These officers were given an extensive course of training before they were sent out. They will have general supervision over a territory comprising six or eight counties, and they will be ready to go at the call of the municipal authorities or anyone who is making a complaint about some insanitary condition. The knowledge which they have in respect to sanitary matters and the knowledge of the law and of all things which will tend to make health conditions better will be of value to the people of the Province. They will take general supervision over the local Boards of Health and the local health officers which now exist and will continue to exist in any municipality. They will give their whole time to the work, and will have no distraction of medical practice to occupy their attention. This is one important matter which was dealt with by the last Legislature.

Another is that the disease of tuberculosis is made a reportable disease, which is notifiable the same as diphtheria or smallpox or the measles. In these matters of public health the women of the country can do a very great deal towards helping the Provincial Board of Health to see that these regulations are carried out. I hope we will have your co-operation and the co-operation of the whole population of the Province, because, as it was pointed out on the screen, public health is the most important thing in the whole series of questions which come before legislators.

Forty or fifty years ago, Beaconsfield, the Prime Minister of England, said "The care of public health is the first duty of the statesman," and last year the present Chancellor of the Exchequer said "Upon this question of public health rests the prosperity of the people." If there is any one thing that I have said will impress you, and which you will carry home and talk about amongst your friends, and which will be of service to you in future in caring for those dependent on you, then my coming here will not have been in vain. I thank you very much.

A MEMBER: I would like to know if there is a regular periodical or paper published by the Health Department, and if so what is it?

MISS WATSON: The "Public Health Journal," edited by Dr. N. Anderson, Lumsden Building, Toronto; and "Preventive Medicine," edited by Dr. W. A. Young, 145 College Street, Toronto.

A MEMBER: What are the proper qualifications for a woman before she can vote for the School Board?

MRS. PARSONS: She must be assessed for property up to the value of four hundred dollars.

A MEMBER: Has she to be assessed in her own name?

MRS. PARSONS: Yes.

I have a question here. "Can a married woman vote on school matters if she has no property in her own name and no income?"

A.—No. She cannot, if she has no property and no income.

Q.—Would it be wise to introduce a resolution the same as passed by the Temperance League *re* the white slave traffic—a separate court for trial of unfortunate girls, and maintenance for those dependent on those who have been imprisoned?

A.—I think that considering the late hour of the convention, that possibly it would be wise for us to take these questions back to our branches and have resolutions come up from each and every branch on this point. I am perfectly certain there is not one branch in the Province of Ontario or in the Dominion of Canada—as we are now a national organization—that does not want to pass a resolution endeavoring to put down the white slave traffic, which is one of the black spots in Canada. It is one of the most infamous things in Canada. It is a thing that is growing in our own fair Dominion. It is touched on by every Convention, at Synods and Presbyteries, and everywhere where men and women are meeting together. A new committee has been formed by the Social and Moral Reform Club, and after Mr. Coots' visit to Canada to stir us up with regard to this matter this Vigilance Committee will be at work. Just let the Women's Institutes work, too, bring up these things and discuss them at your branch meetings, and let everyone lend her voice in protest against such things which exist amongst us.

You know the terrible conditions which exist in a family when the father is imprisoned for any length of time. These are questions that I think would be well to discuss.

The following resolution was carried:—"Resolved that any organization which spends money on local impovement work for their county shall be given a grant from the Government for one-half of the amount expended by them."

Questions answered by Miss Watson:—

"Are fireless cookers an advantage or economic?" My personal experience is that a fireless cooker in a small family is about as much bother as it is worth. It entails considerable labor, and the quantities of food are so small in small families that there is not enough heat in those quantities to conserve the heat satisfactorily, and therefore a fireless cooker for a small family is difficult to deal with, unless you put a heated stone in, and then it takes about as much heat or gas to heat the stone up as it does to cook the whole thing in a small quantity. For a large family I think a fireless cooker is well worth while, because large families use larger quantities of food; and for things which take long, slow cooking, like pot roasts, baked beans, soups and stews, then I think fireless cookers are really labor-savers and money-savers for you. As to the make and style, there are so many on the market that I have no intention of recommending any one make. If you are looking for one, I would look for one that has hot plates, and, above all, one that is easily kept clean, now that means one that won't rust easily, nor has any cracks or crevices that are difficult to keep clean. If you look for those two things I think you could choose any make except the very cheap ones. I am afraid that in the very cheap ones the packing is not a sufficiently good non-conductor.

I have found a gas stove which is a combination of a fireless cooker and a gas stove which I like very much better than the independent gas stove or cooker. I was hauled over the coals for telling about this stove because it is not of Canadian make. My theory is that I have no intention of waiting for the Canadian manufacturers to make things, when I see the good thing. I prefer to get a good thing and then prod the Canadian manufacturer by not buying his old stove until I get as good a thing as is made. We must recognize the fact that in a country with a

larger population than we have they get a market for a new thing much more readily than we can, and very often we who can find these things coming in from other countries or hear about them used in other countries, and do not mean to wait for them.

"Are vacuum cleaners costly? Are they likely to become cheaper soon?" They have gone down half in the last five years, and do you remember how the binders and mowers went down in price. Do not worry about the vacuum cleaners, they are going to do just the same thing. In the first place they have patents which prevent people making just that style, and then another man thinks of another way of making a machine which will do the work just the same, and the competition brings the price down. This paper goes on to say, I do not know "what style is best" any more than I know what style of binder is best. When you go to buy these things, do not worry about the style. Know what you are looking for, and then when you get all of the things you want, buy that machine. Of course, if you get in the hands of a smart salesman he will persuade you his machine is the best on the market, but remember there are a few things you must look for in a vacuum cleaner. You want to look for a cleaner, if it is to be for general purposes, which is compact, which is easily cleaned, which is strong, and which has good suction. You can test that suction by putting a piece of paper over the nozzle or holding your hand and arm out so that it lies flat against the nozzle and see how much force you have to exert to pull it off. The stronger the suction the better work it will do for you. Then get one that will go under all your furniture, because a great many of our houses have big old-fashioned furniture which is heavy to move. Look for a nozzle which will go underneath the furniture. That is why the type of vacuum cleaner which has a flexible pipe with rather a small nozzle to it is better than one which has the power fastened right over the nozzle, but that is a matter on which I am open for conviction. There are many good types of vacuum cleaners on the market, but I would say this, that I would never go without a vacuum cleaner because I could not have an electric cleaner. I would buy a hand cleaner rather than go without any. A good hand cleaner is not very expensive, and it will save you, even if it does cost you money. I think you can get the best for $20 or $25, and that is money well expended. If you cannot buy it yourself, club with your neighbours and each have it one day a week, and if you spent $5 each for it, you have only spent $1.50 a year, and it is worth one hundred times that $1.50 in the labour it will save you, not so much in the actual labour of the sweeping—that is where most people make the mistake. It will probably take you as long to clean a room with the vacuum cleaner as it will for a good smart sweeper to sweep it, but on the other hand you must remember that sweeping is the smallest part of cleaning the room. It takes you the least time. You have to go out and let the dust settle, and if you were a very good housekeeper it took some time to go over that room in order to gather up all the dust. All that part is eliminated in the use of the vacuum cleaner—you do not raise dust, you gather it up, and the saving is in the lessening of the amount of dusting that you have to do and the fact that you do not distribute the dust from the floor on to your furniture and the walls and the draperies—that is the greatest saving. It will cut your house-cleaning labour in half. I know whereof I speak, because of several years' experience with only a hand cleaner. If you have electricity, by all means get an electric machine, because then one person can do the work that it otherwise requires two to do.

A MEMBER: Where can you get the dustless mops?

MISS WATSON: How many people have used the dustless mops? What do you think of it?

A MEMBER: I like it very much.

MISS WATSON: Do you find it easy to keep clean? How long have you used it?

A MEMBER: I have used it two or three months, but I have never tried to wash it.

MISS WATSON: Is there anyone who has used the dustless mop and washed it?

MRS. BIRMINGHAM: I find it washes very well, but the preparation used on it washes off.

MISS WATSON: The dustless mops are very good to use. I do not like the black ones, because I like to see when a mop is dirty. You can buy the ordinary string mops, and of course they are washable and do very good work.

I have another question, "Will a good vacuum cleaner sweep clean without the use of the broom?" I know one house which has used the same vacuum cleaner for five years, and there has been no broom sweeping in that house on the rugs or carpets, and they tell me that every house-cleaning time they have less dust by far, that their house-cleaning now is not half the labour that it used to be without the vacuum cleaner.

Q.—"Can anyone tell me of a real good self-wringing mop?"

A.—I cannot say that I know everything about mops, but personally I have not found a good self-wringing mop; I find most of them are harder to work than to wring by hand. But there is a mop wringer which is simply a box with movable sides and a lever attached to it, and you put that wringer on the side of the pail, drop your mop in it and bring your lever down. A child who could not possibly wring a mop can wring that cloth out drier than the strongest woman in the room. We make every student in Macdonald Institute use a mop wringer, not a self-wringing mop, but a mop wringer, simply to introduce her to a tool which can wring a wet cloth drier than she can. These mop wringers can be had in almost any of the hardware shops.

Personally I shall be very glad if any member of the Institutes who has found a labour-saving method—not so much a tool as a method—of doing household work, would write me a brief account of it so that I may add it to my loan collection. I am very frequently asked for pointers for a paper on labour-saving devices. I have a collection now, but I would rather have a collection of actual experiences from our own Ontario Women's Institutes members. I think they would be very valuable because they apply to our own conditions, so if any of you have anything which would be of value for the loan collection, I beg you to send it to me.

A vote of thanks to those who took part in the programme was heartily passed.

THE CHAIRMAN: Mr. Putnam, will you take the thanks of this Women's Institutes Convention to yourself and those who have so kindly taken part in the proceedings.

MR. PUTNAM: I am sure, Madam Chairman, I appreciate this expression on the part of the delegates. It is most gratifying to me, the heartiness with which every person who is invited to do anything at the Women's Institute Convention consents to do all they are asked, and they ask me, "Is there anything further I can do?" so that while the arrangements are largely left to me, I am so loyally supported that the task is comparatively easy. If our Convention had not been such a success, I would feel it my duty to summarize, to make you believe it had been a success, but when every part of it has gone off so smoothly, it is quite unnecessary for me to say anything, though I were the best of orators; but what I do wish to say is to thank you one and all for your hearty co-operation, and I shall enter upon the year's work very much enthused and encouraged and in the belief we will have a continuation of the hearty support which has made the work such a success in the past.

The Convention closed.

NUTRITIVE VALUE OF FOODS.

Miss Mary Mackenzie, Toronto.

The problem of proper nutrition has always been of great importance, yet scientific study of this subject is comparatively recent. Its development in the last few decades has been very rapid, and has been chiefly under the auspices of the experimental stations of agriculture and other educational centres.

Constant use has made us so familiar with our ordinary foods, that we seldom realize how complicated they are. Though a thorough understanding of them takes us far into chemistry, physics, and physiology, yet a knowledge of the main features will enable the housekeeper to choose her food more wisely and economically, and to present it in a form better adapted to the welfare of those who consume it.

The substances of the food are very similar to those in the body which it nourishes. The constituents are classed under five heads — fat, protein, carbohydrate, mineral matter, and water.

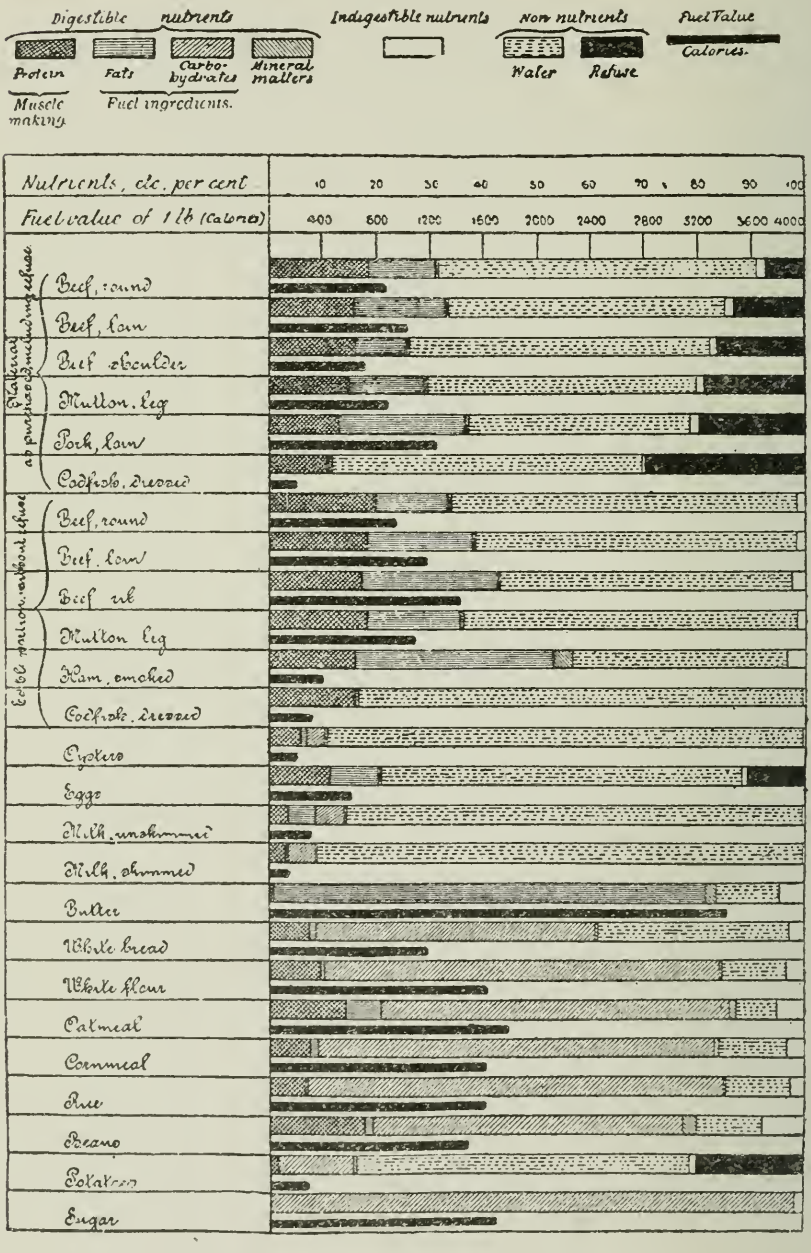
Water forms about two-thirds of our body weight, forming the greater part of the blood and tissues. This fact alone is sufficient to show us the importance of water in our food, of which it forms a much larger per cent. than many realize. But as we may see, it is not waste energy to consume so much water. Indeed, many of us consume too little of it. Not only is it required as a component of the body, but also to keep the blood pure and to assist the kidneys and pores of the skin in washing out waste material and impurities from the body. A glass or two of water an hour before one's meal is an excellent aid to digestion, but little should be taken at the time of eating, except what the food contains.

The mineral constituents of our food as yet have not received much investigation, but what knowledge we have goes to show that it is of paramount importance. The efficiency of the blood to do its work depends largely on the iron it contains, the quality of the bone depends largely on the calcium, and phosphorus is needed in the bones, in the muscles and also in the brain and nerves. All these and more must be supplied from the food. Yet, how many anæmics know that the iron their blood craves may be had from such foods as spinach, celery, lettuce, the yolks of eggs, etc. How many mothers realize that they would be aiding the growing child to form bone by supplying these same foods. It is thought that rickets in children is due partly to lack of calcium. Nature supplies abundant calcium in milk, but when the child reaches the age when a milk diet is no longer sufficient, then the mother must be watchful to see the calcium it needs is supplied. We should have fewer waxen white babies and fewer puny children, if they got in their food all that their little bodies demanded. True, these minerals may be had in the form of drugs—iron in particular is taken in drug form a great deal by people with anæmia—but the body can make use of it very much better if supplied from the natural source—vegetables, fruits, etc.

The green vegetables are particularly important for this. Some contain all three of the most important—calcium, phosphorus, and iron. Some of these are spinach, asparagus, lettuce, celery, cabbage; cauliflower is rich in calcium and phosphorus, but contains no iron, and, being more easily digested than cabbage, is an excellent addition to a child's diet. Some kinds of fish contain a great deal of phosphorus, and thus the saying has arisen that it is a brain food. However, in all the experiments that have thus far been performed, no authority has been found for this statement. Any food is a brain food that keeps the physical health good, for everyone has come to recognize the fact that the state of the intellect, or the mental faculties, are dependent upon the physical, and *vice versa*.

COMPOSITION OF FOOD MATERIALS.

Nutritive ingredients, refuse and fuel value.



But to return to the minerals. Many other diseases might be mentioned which are the result of lack of minerals. The scurvy which we hear of in the Yukon and in soldiers' camps is due to the lack, because these people have not been able to get fresh vegetables. So, though they may seem inconsiderable, the minerals do form an important part of our diet, and since they are contained in small degrees in most vegetables, we should form the habit of eating plenty of the latter.

The water and mineral matter, though quite essential to the welfare of the body, do not nourish it, that is, they do not repair worn out muscle, nor do they supply heat or power to work. This is left to the other constituents of the food, protein, fat and carbohydrate. Let us see what each of these is.

The protein is what builds up the tissues worn out day after day by our work and play. It is found in such foods as lean meat, the white of an egg, the curd of milk and cheese, the gluten of wheat, in peas, beans, peanuts, etc. So these foods may be substituted one for the other without any inconvenience to the body, and the economical housekeeper should know just how this can be done. For instance, meat is considered by some a necessity at from 25c. to 40c. a pound, and cheese somewhat of a luxury at 10c. to 20c. a pound. Yet a pound of cheese yields from 2½ to 4 times as much nourishment as a pound of meat. Which is the luxury? Not only our pocket-books, but also our digestion, would often fare better, if we ate less flesh food and substituted other proteins for it. Do not be misled, however, by people who have become enthusiastic over eggs and declare than an egg is equal to a pound of meat. Eggs are one of the most easily digested substitutes for meat, when they are properly cooked, but it requires at least eight eggs to equal an average pound of meat, or an egg equals about one-half of a measuring cup of good milk.

The so-called vegetarians believe that we can omit flesh foods from our diet entirely. To be sure of the truth of the statement would require years and generations to try it out. Nevertheless, the general conclusion of all scientists and medical men who have experimented on diets, is that, as a nation, we eat too much flesh food, that we not only waste our money providing such food, but we waste our energy digesting it. Moreover, many diseases result from the use of too much meat—gout and rheumatism especially.

Protein is also used to supply heat, and may even be stored as fat if an excess is taken; but it requires more effort to store this food than any other kind and it, therefore, is not an economical reserve.

This brings us to the class of foods which supply heat and energy, namely, fats and carbohydrates. The latter class comprise all sugars and starches—cane-sugar, honey, syrups, all cereals, wheat, oats, barley, etc.; rice, tapioca, arrowroot, cornstarch, potatoes, etc. The fats include the animal fats—lard, tallow, butter, cream, and vegetable oils from olives, castor bean, and from most nuts. The fats and carbohydrates, let me repeat, are the direct sources of heat and energy. Sugar, which we are apt to regard as a mere flavoring, is a real food, and one of the purest foods we have, since there is no waste in it whatever. Moreover, we get quicker returns from sugar than from almost any other food. Soldiers, who have been fatigued by long marches, have been found to revive more quickly when fed sugar than any other food. So do not entirely debar candy from the child's diet. The craving is a natural one, since their active little bodies require abundant energy. Care, however, must be used in selecting the candy, the amount given, and the time of giving it. At the end of the meal is the best time. They will not ask then for too much, nor will it spoil their appetite for other food. Too much must not be given or it will irritate the lining of the stomach.

Nuts are a very concentrated form of food, being the storehouse of energy for the new plant. So, though they may seem expensive, we are paying little more for the nourishment we get, than when buying butter and cheese. Considering the amount of energy we get from any given amount of money spent, the cereals are the cheapest foods we use, more heat being derived from 10c. worth of oatmeal than from almost any food we can mention.

Fruits are only the protection for the seeds of plants and are, therefore, not very nutritious in most cases. The dried fruits, dates, figs, and raisins are exceptions to this rule, but fresh fruits, with the exception of bananas, which contain a great deal of starch, are mostly water and not nutritious. Nevertheless, like the vegetables, which are also mostly water, they form an important part of our dietary. Besides supplying the minerals and water which purify the blood, they add variety to our menu, make our meals appetizing, and, therefore, aid considerably in digestion. The condiments such as pepper, spices, etc., serve a similar purpose, though care should be taken not to use the latter to excess.

When more food is eaten than is required for the daily energy, it is stored in the body as fat, to be changed again into heat and energy at such time as the food is not sufficient for the work being done. A great deal is said nowadays about the quantity of food that each individual should eat, it being generally believed that the average person eats too much. Doubtless there is a good deal of truth in the statement, especially as applied to those who lead sedentary lives. Yet, to a certain extent, each person must be a law unto himself, for it is not upon what we eat that we live, but upon what we digest. The healthiest people are those who take plenty of outdoor exercise, and are, therefore, able to eat heartily.

Nor should we eat just enough to supply our daily needs. In such a case, we should have no reserve energy to throw off the disease germs, with which we are constantly being infected.

In closing, allow me to quote Dr. Atwater, one of our American authorities: "It is commonly remarked by those who have studied the conditions of people of limited means in different parts of the country, that for substantial improvement of their household economies two things are needed. They must be informed as to the high nutritive value of the cheaper foods, as compared with the costlier kinds, and the methods of cooking must be improved. A great deal of fuel is wasted in the preparation of food, and even then a great deal of food is badly cooked. To replace dear food, badly cooked, by cheaper food, well cooked, is important both for health and purse. To make the table more attractive will be an efficient means for making the home life more enjoyable."

CHOICE AND CARE OF UTENSILS.

In talking of utensils the first thing to be considered is the buying. How frequently we buy at random on account of the urgent need for an article. It would be much more satisfactory to plan how we can replace our old utensils—the planning costs nothing—and when the time comes to get a new one, we shall know just what we want and need.

In choosing a utensil several points must be considered. First, is the article genuine, or does it do what the advertisement says it will do, or what you want it to do? Is it durable? Is it convenient to handle; for example, if it is a kettle, is it balanced well; if a saucepan, are the lips in the most convenient place for

pouring? The most convenient will be one with a lip on each side, when it can be poured with either hand.

Decide whether a wooden or metal handle is most convenient for the purpose for which you want it. It will depend on what stove is to be used, etc., but wooden handles are seldom satisfactory. If wood is chosen, birch is a very durable kind.

Is the article easy to clean—with no acute corners or seams, no rolled rim with a rough edge, in which the dirt will collect and remain? Is the handle attached in a way that it may be washed easily at the joining, is the inside of the dish smooth and polished? Is the opening large enough to allow the entrance of the hand for cleaning—as in pitchers, kettles, fruit jars?

Consider whether the dish is the proper size and shape for the kind and quantity of food which is to be cooked in it. A saucepan with flaring sides needs more fuel to cook the food than one with straight sides; yet, if you wish water to evaporate or "boil down," the flaring dish answers your purpose better because it means more surface exposed.

Next, is the utensil safe as a receptacle for food? There must be no risk of forming poisonous compounds. For example, we avoid the use of an iron pot in canning and preserving, because the acid and the iron form a harmful compound. It is not wise to use even enamel dishes when badly chipped.

Let us now consider the utensils best adapted for the different processes of cooking. For cake baking, tin is best, if properly cared for, as it heats quickly and does not readily scorch. For bread tin is also good, or Russian iron may be used. This is a heavy sheet-iron with a polished blue-black surface. An old tin plate or enamel plate is good for pies. The pies, if not used at once, do not need to be removed from the enamel plate as from tin. Cookies are most easily managed on baking sheets made of Russian iron.

For roasting, graniteware is perhaps the best. If an oval dish is chosen, it will save the trouble of digging into the corners when cleaning. For a pot roast, an old fashioned iron kettle maintains the even temperature required, but it requires a tight fitting lid. A casserole is sometimes used for a pot roast and a stew and may then be put in the oven. Note: Casserole means something hidden and the name is applied to a utensil of vitrified earthen ware with a close-fitting cover.

For stewing fruits and vegetables with little water, a wide shallow type of saucepan with a close cover is best; while for strong vegetables, where plenty of water is needed, a deep vessel without a lid is best. Enamel or graniteware is the best dish to be used for this; it is also best in jelly-making.

Consider in detail for a moment a few of the commonest utensils: First, knives. The most durable kind is that which extends flat and unnarrowed to the end of the wooden handle, and is fastened by rivets of steel, copper or brass. Strength is lost if the steel extends one half the length of the handle, or if it narrows to a point. The latter is almost sure to work loose from the handle in a very short time. Beech and birch wood handles are among the best. Never put a handle in hot water, hold in one hand while you wash the blade with the other. Scour with bathbrick using cork for rubbing—it is more durable and cleaner than cloths. One should have in her supply of knives, a bread knife, butcher's knife, vegetable knife, and one with a waved edge for fresh bread and cake. Never heat a knife on the stove for cutting frosting—it ruins the temper. Instead, pour hot water over the blade, or dip in hot water.

Spoons for stirring are best of wood. They are lighter, make less noise and do not scratch surfaces of either metal or enamel. If made of hardwood, they do

not allow much food to penetrate, but may be cleansed by boiling in a weak solution of washing soda. Enamel spoons are not practical, as they tend to bend and thus crack the enamel.

The choice of an egg-beater depends upon the use to which the egg is to be put. The Dover egg-beater is operated by turning a wheel without lifting the beater from the egg. This does not incorporate so much air and so gives the beaten egg a fine close texture. The flat wire beater gives the airiest texture of all, and is best to use for angel cake, sponge cake, and meringues.

Pastry brushes for greasing pans and for brushing rolls or pastry with butter, egg or milk, should be able to stand cleaning with scalding water. They must, therefore, be of the best bristle and bound to the handle by twine—not glue or metal. A shaving brush of badger hair answers the purpose well. Small vegetable brushes which are necessary for cleaning vegetables may also be used to clean graters and many kinds of devices. To avoid confusing them when you have more than one you may burn on the back of each the purpose for which it is to be used. This may be done with a small red-hot poker. The long bottle brushes should be used for jars into which the hand cannot be put.

Care in the arrangement of utensils may save us a great deal of time and worry. Stacking them is not a good idea. You may want an article at the bottom first and you will have to dig for it. Keep all the utensils from the dust; where possible, in cupboards with glass or wooden doors. It is wise to have the shelves narrow, so that one does not have to reach over one article to get another. The shelves should be different distances apart, keeping the utensils on one shelf all of a height and thus economizing space. The utensils should be arranged so as to be easy of access and easy to keep in order. Covers are conveniently stored behind ribs of wood nailed to wall or wooden cupboard door. Arrangement according to size is a good idea in this as in all other utensils. Time is saved if you know instinctively just where to put your hand on the right one. A leather case divided in sections is a good place for sharp knives. There is no danger of being cut in getting one, as in a deep drawer. A shallow wide drawer, where one knife is not put on top of another, is also a good scheme.

A well-stocked repair kit is a necessary part of the up-to-date kitchen. If we calculate the time, strength, and nervous force wasted in trying to use a tea-kettle lid with a loose knob, as against the time that it would take to tighten the nut which holds that knob if only a screwdriver were close at hand; in hunting for the kitchen memorandum in a table drawer, when a nail and a hammer would fasten it to the wall; in tugging at a warped pantry door when a few strokes of the plane would make it open and close easily; in slamming a door that will not close in any other way, for lack of a drop of oil on the catch; in having to discard a pet saucepan in the midst of preparing a company dinner, because a tiny hole makes it useless, when a drop of solder would cure the trouble; in trying to carve meat or cut bread with a dull knife, when the possession of a knife sharpener and a knowledge of how to use it would make the process a pleasure; we shall see readily what a change would be wrought by the presence of a tool chest containing hammer, screwdriver, plane, pliers, oil can, saw, soldering outfit, knife sharpener, twine, shears, and such nails, tacks, screws, and hooks as are most often in demand.

Turn now to the materials used in the kitchen and the care of each. Iron is the most common, used in three forms, namely, cast and wrought iron and steel. It is used alone or as a foundation for tin, galvanized iron, enamel and nickel. A good iron or steel utensil will grow better and better by use, but it must be kept

smooth and dry, otherwise rust will eat it rapidly. Some people think an iron utensil should not be washed, but simply wiped off, so the coating of fat will prevent rust. This is unsanitary, for the fat becomes rancid and we must eat it in the next food which is cooked in the utensil. If the utensil is thoroughly washed and thoroughly dried before putting away, it will not rust quickly. Like any other utensil, if it is not in use for a long time, it should be coated with parafin, vaseline, or some unsalted fat, but it of course must be thoroughly washed before using again.

Most of our tin utensils have a foundation of iron or steel. They protect this foundation and do not corrode easily, unless it be a cheap grade. The cheapest grade is marked X while the best grade is marked XXXX.

Both iron and tin should be coated with fat before using and have the fat baked in. Though this destroys the shiny appearance of the tin, it protects it from rust and increases its capacity to hold heat.

Tinware should not be scratched as it leaves the foundation exposed to the air, which quickly rusts it. Washing with hot soapsuds or rubbing with whiting is the best way for cleaning tinware. Never use Dutch Cleanser or Sapolio on tin. Scouring it to make it look like new is a waste of time and strength, since the film that forms on it is a protection to it. Filling the utensil with water as soon as cooked food is removed will save scraping the utensil in many cases.

A tin utensil with a close fitting lid is the best receptacle for cakes and cookies, for it prevents moisture either coming in or going out. Bread, on the other hand, is not kept well in tin, better in a crock which is porous, for the moisture which comes to the top must escape or the bread will become musty.

Granite and enamel ware is made by coating iron and steel with enamel. The quality of the ware depends upon the quality of iron used, also upon the way in which it is coated. Three light coats of enamel are considered better than one heavy one. In buying this ware, know, if possible, a reliable manufacturing firm, then watch for flaws or spots where iron has not been properly covered. Few retailers grade their enamel ware for seconds, so that the buyer must watch for defects.

We are not usually as careful in the use of enamel and graniteware as we should be. A chip means the beginning of the end of the dish. Discolored enamelware would be better boiled in washing soda than scraped.

Zinc is used to protect the floor under stoves and for table tops, etc. It may be cleaned by using a paste of kerosene and baking soda, but must be thoroughly washed with hot water afterwards.

Nickel plated ware is easily kept clean, does not rust and takes a high polish, but, as yet, it is too expensive for kitchen utensils. It is used, however, as a tableware in coffee pots, casserole stands, trays, etc. It rarely needs more than hot soap suds and hot water to keep it clean. A paste of whiting and lard may be used, if necessary.

Aluminum ware has come quickly into public favor on account of its appearance, light weight, and for its durability, if a good quality is bought. It is claimed that food does not burn so easily in aluminum. It, however, stains easily; even water containing an alkali or iron will tarnish it. This comes off with whiting or any cleaning powder that has no alkali. Aluminum cannot stand such cleansers as Gillett's Lye. If it is necessary to scrape it, do it with a wooden spoon. If this fails, it should be scoured with fine sand or powdered emery. A mild acid also removes stains, such as tart apples or sour milk boiled in the dish. Alu-

minum has one great fault, it will not stand excessive heat, especially the poorer grades.

Copper is seldom used nowadays in utensils, on account of its price. Boilers are still made of copper. A weak acid, such as vinegar and salt, cleanses it, if well rinsed off afterwards.

Silver tarnishes with sulphur. "Oxidized" silver has been purposely tarnished with sulphur. If the household silver discolors badly, sulphur may be escaping from the stove or light. Or it may be near some rubber article, or wrapped in cloth that has been bleached with sulphur, or it has been used for beating eggs. Even handling with warm moist hands tarnishes it, on account of the sulphur in perspiration.

Hot soap suds will remove the film that forms on silver, but whiting or some smooth silver polish (for the most of which whiting forms the foundation) must be used for the tarnish. It is rubbed on the silver in a moist paste, allowed to dry and polished off with a chamois or tissue paper. For sanitary reasons it should be scalded after this polishing.

Let us briefly consider pottery. Porcelain, stoneware and earthenware all have clay for a foundation. The clay used for a foundation is different for each, as is also the glazing and firing. Good stoneware is quite like porcelain in appearance, but the glaze scratches. Earthenware is made from the cheapest clay, and its glaze is easily chipped, exposing the very porous part underneath. Fireproof or vitrified ware is rapidly gaining popular favor, due to the fact that the food may be served in this ware, as well as cooked, which is a saving of utensils. It is used now for casseroles, bean pots, coffee and tea pots, custard cups, etc.

Glass is made by melting together sand, lead or lime compound and soda or potash. That made with potash will stand more heat than that made with soda. The green shade in our poorer glass, as in fruit jars, is due to the presence of iron. Very thin glasses may be washed by turning them upside down in water that is deep enough to cover them when standing on end. Then raise the glass vertically out of the water. The glass will remain full until it is raised completely out of the water, then the contents rushes rapidly out carrying with it the dirt. Glassware is said to be more resistant if, when new, it is placed in a vessel with cold water, raised slowly to a boiling point and cooled slowly. This applies to fruit jars, lamp chimneys, etc.

When used in a kitchen, wood should be protected, where possible, by paint or some other means. Fine sand is better for scouring than soap; the latter darkens the wood. Scrubbing should be done with a circular motion, but rinsing and drying should be done with the grain.

Wood is being used now as fish planks and steak planks. The quality of wood usually being used is oak. The meat is both cooked and served on these planks. The wood seems to give it a distinctive flavor. To make the planks non-absorbent they should be rubbed before using with some oil which will not hurt the food. Tooth picks often come in handy for skewering chops and cutlets.

Vaseline rubbed on the back of ebony or other brushes before washing preserves them from the ammonia that is usually added to the water.

A few of the more modern inventions in utensils might be mentioned. Most of us are familiar with the vacuum cleaner. There is now on the market a combination of the carpet sweeper and vacuum cleaner. Undoubtedly it will not have the draw of a larger vacuum cleaner run by electricity, but does good work and can be operated by one person, in the same manner as the carpet sweeper. The clothes

sprinkler, which is a funnel-shaped spray which fits as a cork into any bottle, is not known at all yet. It sprinkles more evenly and quickly than the old method of hand sprinkling.

The filter teapot is the ordinary vitrified ware, with a funnel-shaped sieve of the same material inside it. The leaves are put in this, and after the few minutes needed for steeping it may be lifted out, thus avoiding the extraction of tannic acid from the leaves by longer standing.

The steam cooker is a modern invention which saves fuel in using an oil or gas stove. It has several layers (three or four). In these different compartments, meat, vegetables, and desserts may be steamed by one fire, and without tainting each other, unless in cases of very strong smelling vegetables.

The fireless cooker is now known to most of us. One may be improvised in the home by packing a box with any non-conductor. The food is started cooking on the stove, usually let boil for five minutes, then put in the cooker closed tightly, where it finishes cooking. Only foods which require slow cooking will cook in such a fireless cooker—such as stews, soup bones, oatmeal porridge, beets, rice, etc. The improved styles on the market have soap stones which are heated on the gas flame before being put in with the raw food. In these almost any food may be cooked, from roast fowl to layer cakes.

The clothes line pulley is a boon to many a woman, especially in winter. This consists of a double line on pulleys at each end. As the clothes are put on, the underline is pulled towards you, which moves the upper line away from one and the garments with it. This enables a woman to stand at the back door or on the verandah while she hangs out her clothes, instead of standing in the snow, as she often does in winter.

The dust mop is an article that should be in every home where there is linoleum or hard wood floors to be wiped. It saves getting down on the knees to wipe the dust up, and we all know that these floors need a wiping with cloth, even after broom sweeping. The wall mop is for similar use, but has a shorter handle. It is very convenient for dusting woodwork that is difficult to reach, as well as the walls. The mop may be bought or made of woollen yarn, or even a soft cloth, and used in an ordinary mop handle. The mops on the market have an oil preparation on them which makes the dust cling to the mop instead of flying about and lighting in another place. Some of these oils are sold for replenishing the mop after washing it.

For those of us who have not the opportunity of using the electric iron, the gasoline iron is a good substitute. If managed properly, the amount of gasoline burned is inconsiderable, and it saves the ironer a great deal of depressing heat in summer.

In closing, may we suggest that every housekeeper keep an inventory of her utensils and their value, and, once a year at least, value them according to their actual worth, making allowance for wear and tear. Not only will it be valuable in case of fire, if your furniture is insured, but it gives one an idea of how many dollars she is wearing out each year in her utensils, and it may lead to a more careful use of them.

The Department is indebted to Cornell University, Ithaca, N.Y., for much of the information in the above article, taken from the Cornell Reading Course Leaflet on "Choice and Care of Utensils."

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1913-14

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	Secretary-Treasurer.	Mrs. Jno. Steele	Almonte.
Lanark, South	President	Mrs. Hayes Boyd	Carleton Place.
	Vice-President	Mrs. Boyd Caldwell	Lanark.
	Secretary-Treasurer.	Mrs. R. V. Fowler	Perth.
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	Vice-President	Mrs. J. H. H. Coleman	Merrickville.
	Secretary-Treasurer.	Mrs. E. L. Telford	Merrickville.
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	Vice-President	Mrs. Jos. Wheaton	Thorndale.
	Secretary-Treasurer.	Miss Becca S. Hobbs	Birr.
Middlesex, North	President	Mrs. Geo. Edwards	Komoka.
	Vice-President	Mrs. Wm. Currie	Fernhill.
	Secretary-Treasurer.	Miss Kath. F. McIntosh	Box 10, Arkona.
Middlesex, West	President	Mrs. Jas. Lotan	Appin.
	Vice-President	Mrs. O. Monger	Mt. Brydges.
	Secretary-Treasurer.	Mrs. J. M. Brunt	Kerwood.
Monck	President	Mrs. Joseph Gilmore	Winger.
	Vice-President	Mrs. O. L. Brewer	Fenwick.
	Secretary-Treasurer.	Mrs. R. B. Fitzgerald	Fenwick.
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	Vice-President	Mrs. Chas. Oldham	Ufford.
	Secretary-Treasurer.	Miss M. Johnson	Allansville.
Muskoka, North	President	Mrs. Jos. Clarke	Aspdin.
	Vice-President	Mrs. H. Dixon	Martin's Siding.
	Secretary-Treasurer.	Mrs. Wm. DeMaine	Etwell.
Muskoka, South	President	Mrs. H. L. Goltz	Bardsville.
	Vice-President	Mrs. H. Speedie	Muskoka Falls.
	Secretary-Treasurer.	Mrs. Wm. Holliday	Box 331, Bracebridge
Norfolk, North	President	Mrs. L. R. Sharpe	Simcoe.
	Vice-President	Mrs. G. A. Smith	Delhi.
	Secretary-Treasurer.	Mrs. Russell Griffin	Simcoe.
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	Vice-President	Mrs. D. H. Orser	Codrington.
	Secretary-Treasurer.	Mrs. H. J. Scripture	Brighton.
Northumberland, W.	President	Mrs. J. G. Waite	Wicklow.
	Vice-President	Miss E. Burgess	Baltimore.
	Secretary-Treasurer.	Mrs. R. C. Allen	Cobourg.
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	Vice-President	Mrs. W. T. Bagshaw	Sunderland.
	Secretary-Treasurer.	Miss Kate McKay	R.R. No. 1, Brechin.
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	Vice-President	Mrs. Alex. Vance	Port Perry.
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	Secretary-Treasurer.	Mrs. M. Cowper	Thamesford.
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	Vice-President	Miss Ella Ross	Curries.
	Secretary-Treasurer.	Miss Lee McCrae	Tillsonburg.
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	Vice-President	Mrs. L. A. Hamilton	Lorne Park.
	Secretary-Treasurer.	Miss S. Campbell	Brampton.
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	Vice-President	Mrs. Ed. Shearer	Listowel.
	Secretary-Treasurer.	Miss Eliza Crookshanks	Millbank.
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	Secretary-Treasurer.	Miss Maggie Driver	Science Hill.
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	Vice-President	Mrs. T. Dick	Vankleek Hill.
	Secretary-Treasurer.	Miss A. Moffatt	Vankleek Hill.
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	Secretary-Treasurer.	Mrs. W. R. Munro	Demorestville.
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	Vice-President	Mrs. Alex. Fraser	Westmeath.
	Secretary-Treasurer.	Mrs. Jno. A. Bennie	Beachburg.
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	Vice-President	Miss Edna Box	Calabogie.
	Secretary-Treasurer.	Miss Agnes McLachlan	Burnstown.
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	Vice-President	Mrs. (Rev.) Alexander	Vernon.
	Secretary-Treasurer.	Mrs. J. C. Stewart	Osgoode.

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	Vice-President	Mrs. Jas. McLaughlin	Anten Mills.
	Secretary-Treasurer.	Miss Jean Graham	R.M.D., Elmvale.
Simcoe, East	President	Mrs. Wm. Bacon	Orillia.
	Vice-President	Mrs. J. P. Wells	Orillia.
	Secretary-Treasurer.	Miss Lillian Harvie	R.R. 2, Orillia.
Simcoe, South	President	Mrs. A. MacDonald	Painswick.
	Vice-President	Mrs. John Faris	Bradford.
	Secretary-Treasurer.	Mrs. Robert Boyes	Churchill.
Simcoe, West	President	Mrs. Geo. Conn	Batteau.
	Vice-President	Miss M. Gordon	Batteau.
	Secretary-Treasurer.	Miss E. Thompson	Sunnidale Corners.
Stormont	President	Mrs. J. McQuaig	Finch.
	Vice-President	Mrs. Eastman	Cornwall Centre.
	Secretary-Treasurer.	Mrs. E. H. Marcellus	Finch.
Union	President	Mrs. W. T. Turner	Drew Station.
	Vice-President	Miss Mary Watson	Clifford.
	Secretary-Treasurer.	Mrs. J. R. Scott	Clifford.
Victoria, East	President	Mrs. (Dr.) Gould	Fenelon Falls.
	Vice-President	Mrs. Jos. Moynes	Fenelon Falls.
	Secretary-Treasurer.	Mrs. Sidney H. Cluxton	Bobcaygeon.
Victoria, West	President	Mrs. J. Dix	Little Britain.
	Vice-President	Mrs. Wm. Wilson	Islay.
	Secretary-Treasurer.	Miss R. Cullis	Oakwood.
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	Vice-President	Mrs. Frank Snider	West Montrose.
	Secretary-Treasurer.	Mrs. J. G. Hurst	Conestogo.
Waterloo, South	President	Mrs. Alex. McDonald	New Dundee.
	Vice-President	Mrs. R. H. Knowles	Hespeler.
	Secretary-Treasurer.	Mrs. T. W. Rutherford	Galt.
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	Vice-President	Mrs. Merryweather	Bridgeburg.
	Secretary-Treasurer.	Mrs. Jno. Gaiser	Welland.
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	Vice-President	Mrs. J. K. Thompson	Marsville.
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	Vice-President	Mrs. T. Anderson	Damascus.
	Secretary-Treasurer.	Mrs. P. Greig	Arthur.
Wellington, South	President	Mrs. M. P. Barry	Rockwood.
	Vice-President	Miss M. Ariss	50 Howitt St., Guelph.
	Secretary-Treasurer.	Miss Eliza Friendship	R.R. 7, Guelph.
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	Vice-President	Mrs. Frank Short	Moorefield.
	Secretary-Treasurer.	Miss Gussie Noecker	Drayton.
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	Vice-President	Mrs. P. S. Green	Carlisle.
	Secretary-Treasurer.	Mrs. J. E. McDonough	Westover.
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	Vice-President	Mrs. Dr. Boyce	Glanford.
	Secretary-Treasurer.	Mrs. C. E. Horning	98 Wentworth St. N., Hamilton.
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	Vice-President	Mrs. I. Graves	Scarboro Jct.
	Secretary-Treasurer.	Miss Margaret Scott	Agincourt.
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	Vice-President	Mrs. J. A. McDonald	King.
	Secretary-Treasurer.	Mrs. H. J. Clubine	Newmarket.
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	Vice-President	Mrs. S. Bryans	320 Pacific Avenue, W. Toronto.
	Secretary-Treasurer.	Mrs. J. A. Lamble	Islington.

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Cainsville	Mrs. A. B. Rose	Mrs. J. Norrie.
Echo Place	Mrs. J. L. Barnes, Box 142, Brantford	Mrs. Jas. J. Burke.
Glen Morris	Miss M. G. Fleming	Miss Sara M. Weir.
Langford	Mrs. H. M. Vanderlip, R.R. No. 1, Cainsville	Mrs. Frank Adams, Cainsville.
Middleport	Miss Mary McBlain, Tuscarora.	Miss Gertrude Dundson, Tuscarora.
Moyle-Tranquility	Mrs. J. J. Hurley, 26 Lorne Crescent, Brantford	Miss Ethel Good, Paris Road, Brantford.
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Tutela	Mrs. A. Hird, Brantford	Miss A. M. Birkett, Brantford.
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Burtch	Mrs. James Minshall	Mrs. Russell Hartley, R.R. No. 3, Brantford.
Cathcart	Miss Florence Stephenson	Mrs. Chas. Kelly.
Falkland	Mrs. J. McGill	Miss Belle McKinnon, Ameronto.
Mt. Pleasant	Mrs. F. E. Malcolm, R.R. No. 2, Brantford	Mrs. D. McPherson, Mohawk.
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Oakland	Mrs. Payson Vivian	Mrs. Albert E. Westbrook.
Ohsweken	Miss Allie McDonald	Mrs. J. Anthony.
Scotland	Mrs. (Dr.) Anderson	Mrs. A. C. Eddy.
Whiteman's Creek	Mrs. John Davis, Glenwood Farm, Brantford	Mrs. Alfred Apps, Box 222, Brantford.
Brockville—		
Athens	Mrs. Wm. Johnston	Mrs. Chas. F. Yates.
Bruce, Centre—		
Armow	Mrs. F. Shewfelt	Mrs. Wes. Hutton.
Bervie	Mrs. A. Cook	Mrs. A. E. Emerson.
Chesley	Mrs. S. Owens	Miss M. McCannel.
Kincardine	Mrs. F. E. Coombe	Miss J. McGregor.
Paisley	Mrs. Charles Briggs	Miss Annie McBride.
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Ripley	Mrs. R. J. Graham	Mrs. W. J. Crawford.
Williscroft	Mrs. Jas. Dudgeon, R.R. No. 2, Dobbinton	Miss Myrtle Rushton R.R. No. 2, Dobbinton.
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Colpoys Bay	Mrs. F. Post	Mrs. S. Weir.
Hepworth	Mrs. B. Muma	Mrs. M. McPhatter.
Hope Bay	M s. W. Lewis	Miss Lottie Hepburn.
Lion's Head	Mrs. W. B. Moore	Mrs. F. G. Moore.
Mar	Mrs. J. Given	Miss Jessie Weir.
Park Head	Mrs. S. Smith	Miss Lou Spencer.
Wiarton	Mrs. M. Hoover	Mrs. Arthur A. Watt.
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Belmore	Mrs. Wm. Lowry	Miss Agnes Darling.
Lucknow	Mrs. Wm. McDonald	Mrs. R. T. Phillips.
Teeswater	Mrs. J. Good	Mrs. M. H. Gillies.
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Arkwright	Mrs. T. W. Thompson	Miss Lily C. King.
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Tara	Mrs. C. E. Start	Mrs. P. Foster.
Tiverton	Mrs. P. J. Brown	Miss L. N. Turner.
Carleton—		
Antrim	Mrs. J. J. Wilson, Pakenham	Miss J. E. Sparrow, Route 1, Kinburn.
Carp	Mrs. Geo. Hodgins	Miss Lucy S. Gourlay, Huntley.
Galetta	Mrs. W. G. MacMorine	Miss Charlotte Montforte.
Kars	Mrs. J. W. Brown	Mrs. W. A. Magee.
Kinburn	Mrs. A. L. Stackhouse	Miss Lou Harper.
Manotick	Mrs. Geo. Clarke	Mrs. Geo. R. Bradley, R.R. No. 2, Kars.
North Gower	Mrs. R. A. Craig	Mrs. A. W. Callander.
Stittsville	Mrs. Jno. G. McGuire	Mrs. Thos. W. Boyes.
Dufferin—		
Blount	Mrs. G. Crozier	Miss A. Holmes.
Bowling Green	Mrs. Lyman Potter, R.R. No. 1, Waldemar	Miss Minnie Durkin R.R. No. 1, Waldemar.
Camilla	Mrs. John Buchanan	Mrs. A. Lundy.
Corbetton	Mrs. J. Blakely	Mrs. John Speer.
Elba	Mrs. Smith	Miss Mamie Little, R.R. No. 4, Orangeville.
Honeywood	Mrs. John McLean	Mrs. G. A. East.
Horning's Mills	Mrs. Ira Eby	Miss J. E. Fox.
Laurel	Mrs. E. Richardson	Mrs. H. Cox.
Mono Centre	Miss Barclay	Mrs. W. S. Martin.
Orangeville	Mrs. Jas. Gordon	Mrs. Jas. Langford.
Shelburne	Mrs. R. Fyfe	Mrs. T. Reaburn.
Violet Hill	Mrs. R. Wake	Miss Winnifred Canning.
Whitfield	Mrs. Thos. Best	Miss Effie Best.
Whittington	Mrs. W. T. Johnston, R.R. No. 3, Orangeville	Mrs. L. C. Groskurth, R.R. No. 1, Laurel.
Dundas—		
Chesterville	Mrs. W. H. Casselman	Miss E. McGee.
Iroquois	Mrs. P. P. Everett	Mrs. J. A. Nash.
Morewood	Mrs. J. W McCormick	Mrs. Arthur Swerdfeger.
Morrisburg	Mrs J. C. Boyd	Mrs. R. H. Ashton.
Williamsburg	Mrs. Jessie McIntosh	Miss Jessie E. Becksted.
Winchester Springs	Mrs. Lorne McIntosh	Miss L. McIntosh.
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Bailieboro	Mrs. T. A. Skitch	Mrs. James Greer.
Bewdley	Mrs. W. J. Cruse	Miss Bertha Ainlay.
Charlecote	Mrs. George Bamsey, Welcome	Miss Lucy Edwards, Zion.
Elizabethville	Miss L. Aiken	Mrs. W. H. Beatty.
Fairmount	Mrs. J. F. Staples, R.R. No. 1, Ida	Mrs. A. E. Sanderson, Morrow.
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Millbrook	Mrs. J. Allen	Miss Eva F. Gillott.
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Port Hope	Mrs. W. E. Finlay	Mrs. F. Sculthorpe.
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Nestleton	Mrs. Jas. Gordon	Miss Eva L Malcolm.
Orono	Mrs. A. A. Powers	Mrs. J. R. Cooper.
Solina	Miss Lulu Reynolds	Miss Minnie Baker, R.M.D.
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Bayham	Miss Louise Mitchell, Strafford-ville	Mrs. A. B. Riddell.
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Lyons	Mrs. A. Ferris	Mrs. W. McCredie.
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Springfield	Mrs. John Charlton	Mrs. F. C. Muller.

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Rodney	Miss S. Messerschmid	Mrs. G. A. McLevey.
Shedden	Mrs. Guest	Mrs. F. Trace.
Wallacetown	Mrs. S. S. Turville	Miss M. M. Cameron.
West Lorne	Mrs. Sims	Mrs. Hugh McKillop.
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Comber	Mrs. D. Allison	Mrs. G. P. Dodson.
Maple Leaf	Mrs. A. E. Wismer, Essex	Miss Sadie Wright, Essex.
Maidstone	Miss M. Hammond, Essex	Miss A. B. Wilson, Essex.
Oldcastle	Mrs. Lapair, North Pelton	Mrs. Dave Robinson, North Pelton.
Staples	Mrs. D. A. Roadhouse	Mrs. Wm. Ford.
South Woodslee	Mrs. Geo. Myles	Mrs. B. R. Cohoe.
Essex, South—		
Amherstburg	Mrs. John Doty	Mrs. D. H. Terry.
Cottam	Mrs. W. H. Neville	Mrs. L. J. Orton.
Essex	Mrs. I. Middleton	Mrs. Mary Gormley.
Harrow	Mrs. Ira Pastorious	Mrs. Angus P. Clark, Oxley.
Kingsville	Mrs. Theo. Kettle	Mrs. Walter C. Scratch.
Leamington	Mrs. E. E. Adams	Mrs. Geo. R. Fox, Box 32.
Frontenac—		
Collin's Bay	Mrs. Thos. Miller, R.R. No. 2	Miss Alice Fairfield, R.R. No. 2.
Inverary	Mrs. S. F. Ferguson	Mrs. G. Leatherland, R.R. No. 2, Kingston.
Westbrook	Mrs. J. L. F. Sproule	Mrs. Will McEwen.
Glengarry—		
Martintown	Mrs. W. D. McDermid	Mrs. S. W. Christie.
Maxville	Mrs. J. P. McNaughton, Dominionville	Miss Laura Weeger.
Grenville, South—		
Brouseville	Mrs. W. H. Adams	Mrs. A. H. Runions, Cardinal.
Maynard	Miss Maud Rowe, Prescott	Mrs. Chas. Graham, Blue Church Road.
Shanley	Miss B. Ault	Miss Lylia Gillmoure, R.M.D. 4, Spencerville.
Spencerville	Mrs. Almon Fairbairn	Miss Christina Black.
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Badjeros	Mrs. William Norman	Mrs. J. C. Finley.
Clarksburg	Mrs. (Dr.) Moore	Mrs. Thos. Lambert Thornbury.
Dundalk	Mrs. J. R. McIntyre	Mrs. W. J. Ludlow.
Eugenia	Mrs. Len. Latimer	Mrs. Jake Williams.
Flesherton	Mrs. Albert Stewart	Mrs. Edwin Best.
Heathcote	Mrs. Victor Armstrong	Miss Edith Reekie.
Holland Centre	Mrs. Alex. Shute	Miss Beatrice McKinley.
Hopeville	Miss Lizzie Christie R.R. No. 1, Dundalk	Mrs. Geo. Gilkes, R.R. No. 1, Dundalk.
Kimberley	Mrs. B. A. Carruthers	Mrs. A. Myles.
Markdale	Mrs. W. L. McFarland	Mrs. C. E. Armstrong.
Maxwell	Mrs. W. Wright	Miss Daisy Ferguson.
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Temple Hill		Mrs. Geo. Kelly, Rocklyn.
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Walter's Falls	Mrs. John Reid	Miss Irene Shepherdson.
Williamsford	Mrs. Wm. Sneck	Miss A. I. J. Davey, R. 1, Chatsworth.
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Annan	Mrs. D. McGregor	Miss N. J. Cannon.
Bognor	Miss B. Leonard, Woodford	Mrs. J. B. Ballantyne.

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Clavering	Mrs. Thos. Lisk	Miss Lizzie Wilkinson.
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Shallow Lake	Mrs. John Ritchie	Mrs. Alfred Harrington.
Strathnairn	Mrs. Wm. White	Miss Helena Free.
Grey, South—		
Ayton	Mrs. J. Schnell	Miss Mary Wenger.
Dromore	Mrs. W. Hastie, R.R. No. 2, Holstein	Miss Mandy Renwick, R.R. No. 2, Holstein.
Dornoch	Mrs. R. Dargavel	Mrs. A. Campbell, Crawford.
Durham	Mrs. J. Hepburn	Miss M. J. McGirr.
Elmwood	Miss Marie Dirstein	Mrs. W. L. Dobney.
Hanover	Mrs. Robert Boyd	Mrs. Wm. Bartleman.
Holstein	Mrs. W. H. Rogers	Mrs. J. D. Robert.
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Louise	Mrs. Pete Krauter	Miss Charlotte Pratt.
Haldimand—		
Bingham Road	Mrs. Robt. Laws	Mrs. Meadows.
Caledonia	Mrs. Burns	Miss Grace Richardson.
Canfield	Mrs. H. W. Smith	Miss Alma Walker.
Cayuga	Mrs. R. Lindsay, R.R. No. 4	Mrs. R. H. Green.
Cheapside	Mrs. Norman Buckley	Miss Agatha Stillwell.
Clanbrassil	Mrs. A. Harper, Cranston	Mrs. Jas. McConachie. Lythmore.
Decewsville	Mrs. D. Tate, R.R. No. 4, Cayuga	Mrs. F. C. Warner R.R. No. 4, Cayuga.
Erie	Mrs. W. J. Devine	Miss Pearl Biggar.
Garnet	Mrs. H. Huffman	Miss Isabel Thompson.
Gill	Mrs. H. H. Gee, Hagersville	Mrs. A. Snell, Hagersville.
Hagersville	Mrs. Henry Hurst	Mrs. Isaac Trousdale.
Jarvis		Miss M. Allan.
Nanticoke	Mrs. W. H. Evans	Mrs. F. Field.
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Selkirk	Mrs. A. Lamb	Mrs. E. Lindsay.
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Varency	Mrs. Miller	Mrs. D. Parkinson.
York	Mrs. Emerson Peart, Cranston	Mrs. A. A. Bain.
Haliburton—		
Gooderham		
Haliburton	Mrs. G. Potts, Sr.	Mrs. Wm. Curry.
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Minden	Mrs. S. Phillips	Mrs. D. J. Hartle.
Halton—		
Acton	Mrs. Jas. L. Warren	Miss J. E. Harvey.
Ballinafad	Mrs. J. Miller, R.R. No. 1, Georgetown	Miss Abbie Campbell.
Burlington	Mrs. C. H. Emerson	Miss Ethel A. Fowler.
Esquesing	Mrs. R. C. Nixon, Box 435, Georgetown	Miss Edna Wilson R.R. No. 2, Georgetown.
Georgetown	Mrs. T. W. Beamish	Miss Lillian Herbert.
Kilbride	Mrs. G. C. Erwin	Miss Winnie Tweedle.
Nelson	Mrs. A. Freeman, Mt. Nemo	Miss Margaret Wilson, Mt. Nemo.
Norval	Mrs. Samuel Lyons	Miss Annie D. Raye.
Palermo	Mrs. Mary Bowman	Miss E. J. Hager.
Sheridan	Mrs. Geo. Hardy	Mrs. Wilson Oughtred, Clarkson.
Trafalgar	Mrs. A. A. Biggar	Mrs. W. T. Brown, R.R. No. 1, Oakville.

Institute.	President.	Secretary.
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Bethany (Palmers)	Mrs. S. Cooley, R.F.D., Corbyville	Mrs. Dan. Phillips, R.F.D., Corbyville.
Foxboro	Mrs. A. Loucks	Mrs. H. Frederick.
Melrose	Mrs. Harry Hill	Mrs. Earl Anderson.
Halston	Miss Mary Shannon, Latta	Mrs. Edward Barber.
Phillipston	Mrs. Jas. Phillips, R.M.D.	Mrs. Walker Sayers, R.M.D., Halloway.
Plainfield	Mrs. W. J. Patterson, Latta	Mrs. J. W. Hamilton, Latta.
Quinte	Mrs. W. A. Hall, Station P.O., Belleville	Miss Carrie M. Reid, Kingston Road, R.F.D., Belleville.
Roslin	Mrs. J. Robinson, Thomasburg	Miss Helen Rutherford.
Thomasburg	Mrs. Thos. Francis	Miss Emma L. Porter.
Tweed	Mrs. C. F. Tucker	Mrs O. M. Alger.
West Belleville	Mrs. M. A. Hearst, Catherine St.	Mrs. W. A. Woodley, 56 Catherine Street.
Hastings, North—		
Bancroft	Mrs. W. Detlor	Mrs. A. H. Davy.
Coe Hill		
Detlor	Mrs. Chas. Maguire	Mrs. W. F. Swayne, Bessemer.
Eldorado		
Fort Stewart	Mrs. J. E. Greaves	Miss Lura Haryett.
Ivanhoe	Mrs. Andrew Downey, Crookston	Miss Fannie Stout.
Madoc	Mrs. A. H. Watson	Mrs. W. E. Connor.
Marmora	Mrs. (Dr.) Thomson	Mrs. C. A. Bleecker.
Maynooth	Mrs. Jas. Haryett	Miss M. B. Carswell
Minto	Mrs. M. V. Sine, Sine	Miss Bertha Sarles.
Queensboro		
Springbrook	Mrs. D. W. Roblin	Mrs. Jas. E. Mumby.
Stirling	Mrs. R. P. Coulter	Mrs. Jas. E. Lagrow.
Wellman's Corners	Mrs. E. Scarlett	Mrs. E. Todd.
Hastings, West—		
Chatterton	Miss Bessie Spencer, Halloway	Miss Beatrice Guffin, Halloway.
Frankford	Mrs. H. V. Malone	Mrs. Geo. Potter.
River Valley	Mrs. Harry McFaul, Stirling	Miss Janet Smith, Stirling.
Wallbridge	Miss Clara Lane, R.F.D. No. 2, Belleville	Mrs. John Phillips, R.F.D., 2 Sydney, Belleville.
Huron, East—		
Belgrave	Mrs. Wm. Proctor	Miss Margaret I. Ferguson.
Bluevale	Mrs. Robt. Black	Miss Susie I. Collie.
Brussels	Mrs. Wm. Rands	Mrs. Jas. Ballantyne.
Ethel	Mrs. M. Ferguson	Miss L. Hall.
Fordwich	Mrs. J. Lambkin, R.R. No. 1	Mrs. W. Goggin.
Gorrie	Mrs. Geo. Foster	Mrs. J. Armstrong.
Jamestown	Miss Rae Moses	Miss Mary Smith.
Molesworth	Mrs. A. Percy	Miss Ella Fraser.
Walton	Mrs. Joseph Bennett	Miss Rosa Simpson.
Huron, South—		
Blake	Mrs. Jno. Keyes	Mrs. Pearl Schmidt.
Egmondville	Mrs. J. Sproat	
Exeter	Mrs. M. Monroe	Mrs. A. Hastings.
Huron, West—		
Blyth	Mrs. P. Gardiner	Mrs. R. Wightman.
Clinton	Mrs. E. Munroe	Mrs. Thos. Mason, Box 135.
Goderich	Mrs. R. S. Craigie, Lighthouse Street	Miss M. E. Salkeld Box 54.
Holmesville	Mrs. N. W. Trewartha	Miss L. Ford.
Kintail	Miss Annie McLennan Laurier	Miss Sara A. Taylor.
Londesboro	Mrs. (Dr.) Allison	Mrs. R. J. Young.
St. Augustine	Miss Mary Cummins	Miss Josephine I. McAllister.
St. Helen's	Mrs. A. Anderson	Mrs. R. K. Miller.
Wingham	Mrs. (Dr.) J. P. Kenendy	Mrs. W. Bone.

Institute.	President.	Secretary.
Kent, East—		
Botany	Miss Ella Cameron, R.R. No. 4, Thamesville	Miss Mary J. Dick, R.R. No. 4, Thamesville.
Bothwell	Mrs. Thos. Knight	Mrs. J. J. Vincent.
Croton	Miss Kate Fraser, Thamesville	Miss Vivian E. Snarey.
Dawn Mills	Mrs. J. W. Healy	Mrs. Albert Elgie.
Guilds	Mrs. Duncan Campbell	Miss Gertie E. Nevills.
Highgate	Mrs. W. J. Smale	Mrs. Abe Millar.
Kent Bridge	Miss Emma Smith	Mrs. M. West.
Morpeth	Mrs. Oscar Gardiner	Mrs. A. Mitton.
Ridgetown	Mrs. Frank Watt	Miss Evelyn Backus, Box 102.
Thamesville	Mrs. Duval	Mrs. W. Snary.
Wabash	Mrs. John Badder, R.R. No. 1, Thamesville	Miss Hester Law, R.R. No. 1, Thamesville.
Kent, West—		
Cedar Springs	Mrs. A. Robertson, Blenheim	Miss Florence J. Thompson, R.R. No. 3, Blenheim.
Dover	Mrs. Nelson Ruhnke	Mrs. W. Watson, R.R. 2, Dover Centre.
Eberts	Mrs. Jas. Miller	Mrs. R. Miller.
Irwin	Mrs. W. H. Irwin	Mrs. Thos. Irwin, Chatham.
Port Alma	Mrs. Alex. Crew	Mrs. J. R. Shanks.
Quinn	Mrs. Thos. Brown	Miss Hazel McLeod.
Thames River	Mrs. Fred. Dolsen, Chatham	Mrs. Jno. Fleming, Chatham.
Tilbury	Mrs. E. Clark	Mrs. N. Ainsley.
Valetta	Mrs. J. H. Williams, Fletcher	Miss Bella Clark.
Wallaceburg	Mrs. Geo. McCreary	Mrs S. Courtis.
Wheatley	Mrs. Jos. Hickson	Mrs. C. H. Potts.
Lambton, East—		
Aberarder	Mrs. D. Johnson	Miss Harriet McKinley.
Alvinston	Mrs. Robt. Clarke, R.R. No. 3	Mrs. A. B. Connor.
Aughrim	Mrs. E. F. Augustine, Cairo	Miss Hazel McCauley, Aberfeldy.
Arkona	Mrs. Henry Rook	Miss A. Carnaghan.
Brooke	Mrs. M. J. Campbell, Alvinston	Miss A. McGugan, Watford.
Florence	Mrs. A. D. Adams	Miss Loa Walker.
Forest	Mrs. Jas. Lochead	Mrs. J. S. Rawlings.
Inwood	Mrs. N. A. Campbell	Miss Clara Graham, Weidmann.
Shetland	Miss M. E. L. Dobbyn	Miss Ethel Moorehouse, Cairo.
Thedford	Mrs. Houston	Miss M. Thompson.
Uttoxeter	Mrs. T. Martin, Forest	Mrs. Wm. Gove, Wanstead.
Warwick	Mrs. H. M. Morningstar	Miss Ethel Thompson.
Watford	Mrs. P. J. Dodds	Mrs. J. D. Brown.
Wyoming	Mrs. H. Montgomery	Miss Jean McDonald.
Lambton, West—		
Becher	Mrs. Neil Grant, Duthil	Mrs. Wm. McAllister.
Bentpath	Mrs. C. Cummings	Mrs. J. Coneybeare.
Blackwell	Mrs. Thos. Wheatley, R.R. No. 3, Sarnia	Miss E. M. Wellington, R.R. No. 3, Sarnia.
Brigden	Miss Agnes Manner	Mrs. Wm. Boyd.
Colinville	Miss Ethel D. Jarvis	Miss Annie White.
Lucasville	Mrs. F. C. Kewley, Fourth Line, Sarnia	Miss Edna Millikin, Fourth Line, Sarnia.
Oakdale	Mrs. E. Hartwick	Miss Rae McAlpine, R.R. No. 2, Oil Springs.
Osborne	Mrs. J. Dowler, R.R. No. 3, Sykeston	Mrs. Geo. Cheser, R.R. No. 3, Sykeston.
Petrolea	Mrs. R. Jackson	Mrs. W. R. McDonald.
Rutherford	Mrs. Frank Emery	Mrs. Jno. Thomson.
Thornyhurst	Mrs. William Leonhardt	Mrs. John Featherstone.
Union	Mrs. Leslie Harkness, Mandamin	Mrs. Wm. Ingram, Mandamin.
Wilkesport	Mrs. F. C. Pretty	Miss Evelyn Dawson.

Institute.	President.	Secretary.
Lanark, North—		
Almonte	Mrs. Geo. Robb	Mrs. John Steele.
Carleton Place	Mrs. J. U. Stewart, Appleton	Mrs. Horace Dummert.
Cedar Hill	Mrs. Robert Lowry	Mrs. Wm. Boal.
Clayton	Mrs. J. E. Hogan	Mrs. M. J. Hogan.
Pakenham	Mrs. Geo. Francis	Mrs. W. H. Edwards.
Lanark, South—		
Elphin	Mrs. Wm. Gilmour	Mrs. Allan Izalt.
Drummond Centre	Mrs. Thos. H. Ireton, R.R. No. 2, Perth	Miss Helen McGarry, R.M.D. No. 2, Perth.
Innisville	Mrs. Hayes Boyd, R.R.I., Carleton Place	Mrs. Jas. Hammond.
Lanark	Mrs. Boyd Caldwell	Miss Annie McDonald.
Maberly	Mrs. G. W. Buchanan	Mrs. J. Buchanan.
Perth	Mrs. (Dr.) Campbell	Miss Elsie McVeety.
Poland	Mrs. Jas. C. Currie, Lammermoor	Mrs. Jas. D. McDougall, Lammermoor.
Watson's Corners	Mrs. Thos. Craig	Mrs. J. H. Fair.
Leeds, South—		
Delta	Mrs. T. J. Frye, Soperton	Mrs. Wm. Morris.
Elgin	Mrs. E. F. McGhie	Mrs. Fred. Stanton.
Lansdowne	Mrs. S. E. Johnston	Mrs. S. C. E. Dixon, Box 26.
Newboro	Mrs. G. Wrathall	Miss N. McGonigal.
Seeley's Bay	Mrs. C. Gilbert	Miss Nellie G. Scanlan.
Westport	Mrs. E. G. Adams	Miss Julia E. Foley.
Leeds, North, and Grenville—		
Merrickville	Miss Mary E. Pearson	Mrs. E. L. Telford.
Burritt's Rapids	Mrs. Geo. E. Derrick	Miss Maud Armstrong.
Lennox—		
Adolphustown	Mrs. H. M. Johnston, Parma	Miss Libbie Robertson Dorland.
Conway	Mrs. Geo. Switzer, Sandhurst	Miss Estella Moon.
Lincoln—		
Beamsville	Mrs. A. P. Thomas	Mrs. Chas. Prudhomme.
Campden (Union)	Mrs. J. B. Haist, R.R. No. 1, Jordan	Mrs. W. Honsberger, R.R. No. 1, Jordan.
Grimsby	Mrs. (Dr.) Brownlee	Mrs. R. J. Snetsinger.
Niagara-on-the-Lake	Mrs. H. Macklem	Miss Mary Gillies.
Queenston	Mrs. F. H. Sheppard	Miss Edna L. Lowry.
Middlesex, East—		
Birr	Miss Irene Guest, R.R. No. 2, Birr	Miss Avice Scott, R.R. No. 2, Denfield.
Crampton	Mrs. J. Morris	Mrs. G. Craik.
Harrietsville	Mrs. L. L. York	Miss K. McCallum, Gladstone.
Hyde Park	Mrs. Durnford	Miss Norma Mackenzie.
Thorndale	Mrs. Jas. Angus	Miss Emma G. Harding.
Wellburn	Mrs. Chas. Stirritt, St. Mary's	Mrs. Chester Hobbs, Thorndale.
Wilton Grove	Mrs. Geo. B. Laidlaw, R.R. No. 2.	Mrs. Chas. M. Shore, R.R. No. 2.
Belmont	Mrs. W. M Wilkins	Mrs. A. W. Venning.
Middlesex, North—		
Ailsa Craig	Mrs. W. Brownlee	Miss Mary Wyllie
Beechwood	Mrs. Jno. Currie, Fernhill	Mrs. Will. Chelew Fernhill.
Coldstream	Miss Lizzie Fletcher, Poplar Hill	Miss Florence Hamacher, Poplar Hill.
Greenway	Mrs. C. H. Wilson	Miss Mary Hutchinson, Willis West.
Komoka	Mrs. Alex. Wilkie	Miss Idela Steele.
Lobo	Mrs. James Edwards, Komoka	Miss Ella M. Graham.
Clandeboye	Mrs. Hiram Windsor	Miss E. Grundy.
Lucan	Mrs. W. D. Ferguson	Mrs. Ensley Hodgins.
Parkhill	Mrs. M. Fenn	Miss A. M. Hotson.
Sylvan	Mrs. A. E. Arnold	Miss K. F. McIntosh, Box 10, Arkona.
West McGillivray	Mrs. Andy Erskine, Lieury	Miss Minnie Amos, Clandeboye.

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Middlesex, West—		
Appin	Mrs. J. A. McTaggart	Miss Ivy McDonald.
Kerwood	Mrs. Arthur Woods	Mrs. J. M. Brunt.
Mount Brydges	Mrs. Richard Coy	Mrs. Walter Snelgrove.
Napier	Mrs. Wm. Gardiner	Miss Lulu McLean.
Newbury	Mrs. Dan. Patterson	Mrs. Stephen Fennell.
Strathroy	Mrs. J. S. Douglas	Mrs. M. W. Cummiford.
Wardsville	Mrs. J. A. Bilton	Miss M. Mary Martyn.
Monck—		
Attercliffe Station	Mrs. P. Moote	Miss Bertie Lodge, R.R. No. 2, Dunnville.
Canboro	Mrs. W. L. Melick	Miss Jennie Carey.
Dunnville	Mrs. K. J. Shirton	Mrs. J. T. Masson.
Fulton	Mrs. Harley Merritt, Tweedside.	Mrs. David Jacobs, Grassies.
Pelham Centre	Mrs. R. B. Fitzgerald, Fenwick.	Mrs. L. S. Haney, Fenwick.
Silverdale (Rosedene)	Mrs. Robert Brown, Silverdale Station	Mrs. Elmon J. Hodgkins, Silverdale Station.
Smithville	Mrs. C. Snyder	Mrs. J. E. Roszel.
Winger	Mrs. Wm. Angle, Forks Road	Mrs. D. R. Swayze.
Muskoka Centre—		
Allansville	Miss L. Coldwell, Huntsville	Miss M. Proudfoot.
Port Sydney	Mrs. D. Jaggard	Mrs. A. MacInnes.
Ufford	Mrs. Elijah Veitch	Miss Susanna Shea.
Muskoka, North—		
Ashworth	Mrs. Wm. M. Tipper, Etwell	Mrs. Wm. DeMaine, Etwell.
Aspdin	Mrs. Harry Dixon, Martin Siding	Mrs. Joseph Clarke.
Birkendale	Mrs. C. J. C. Crump, Fox Point.	Mrs. Margaret G. Robson, Birkendale.
Brunel	Mrs. Roger Andrews, Huntsville.	Mrs. Gifford Holinshead, Huntsville.
Dorset	Mrs. A. Crewson	Mrs. J. A. Biggs.
Dwight	Mrs. Ada Keown	Mrs. E. Corbett.
North Huntsville	Mrs. J. Silverwood, Sr., Huntsville	Miss Norah Bildson, Huntsville.
Ravenscliffe	Mrs. E. W. Tipper	Mrs. A. DeForest.
Silverdale	Mrs. John Mawhiney, Huntsville	Miss Rhina Slocombe, Martin Siding.
Muskoka, South—		
Bardsville	Mrs. Thomas Donally	Mrs. H. L. Goltz.
Baysville		Mrs. Arthur Henderson.
Bracebridge	Mrs. W. Galbraith, Box 526	Mrs. H. Corrigan, Box 521.
Germania	Mrs. John Thompson, Uffington.	Miss Julia Weis.
Gravenhurst	Mrs. D. Abbey, Box 210	Mrs. L. M. Harris, Box 177.
Monck	Mrs. Robert Holden, Box 366, Bracebridge	Mrs. Wm. Ball, Sr., Lock Box 266, Bracebridge.
Muskoka Falls	Mrs. Hugh Campbell	Miss Nellie Sefton.
Reay	Mrs. Donald Morrison	Miss Thelma Galbraith.
Sanford	Mrs. Wm. Killen, Port Carling.	Mrs. A. L. Casselman, Port Carling.
South Macaulay	Mrs. Alex. Barron, Box 316, Bracebridge	Mrs. F. Denniss, Box 231, Bracebridge.
Windermere	Mrs. F. Forge	Miss R. Kilburn.
Norfolk, North—		
Boston and East Oakland	Miss Mabel VanLoon	R.R. No. 4, Waterford.
Courtland		Mrs. J. S. Benn.
Delhi	Mrs. G. A. Smith	Mrs. R. F. Inance.
Guysboro	Miss Annie Marshall	Miss J. A. Watson, Acacia.
Hartford		Mrs. G. Munn.
Lynnville	Mrs. Harvey Potts	Mrs. John Innes.
Simcoe	Mrs. Lucy H. Miller	Mrs. Russell Griffin.
Windham Centre	Mrs. Will Stettler	Miss Augusta C. Herron.

Institute.	President.	Secretary.
Norfolk, South—		
Carholm	Mrs. W. Carroll, Silverhill	Mrs. C. Bowyer, Silverhill.
Fairgrounds	Mrs. H. Finch	Mrs. W. Kennedy.
Walsh	Mrs. W. Rollings	Miss Luella Hall.
Northumberland, East—		
Brighton	Mrs. A. O. Maybee	Mrs. G. F. Clark.
Campbellford	Mrs. Chas. Macoun	Mrs. Chas. Langmuir, Hastings.
Castleton	Mrs. George Campbell	Mrs. W. J. Harper, Oak Heights.
Codrington	Mrs. J. B. Moran	Miss Ella Plumton.
Dundonald	Mrs. Monroe Dudley	Mrs. D. Bland, Box 258, Colborne.
Hilton	Mrs. P. L. Macauley	Mrs. W. T. Strong.
Menie	Mrs. U. C. Clancy	Miss Mabelle Stewart.
Percy	Mrs. R. Honey, Brickley	Mrs. Arthur Partridge, Warkworth.
Wooler		Miss Gladys McColl, R.F.D., Hilton.
York Road	Mrs. Ezra Bedal, Brighton	Miss Anna M. Peister, Brighton.
Northumberland, West—		
Baltimore	Mrs. W. Mann	Mrs. J. Ball.
Centreton	Mrs. Tom Coffey, Eddystone	Mrs. Frank Birney.
Cobourg	Mrs. Fred Precious	Mrs. R. C. Allan.
Coldsprings	Mrs. James Bray	Miss Mary Jibb.
Elmview	Miss Holdsworth, Port Hope	Miss Virgie Morton.
Fenella	Mrs. John Harrington	Mrs. M. Davey.
Grafton	Mrs. Immel, The Gully	Mrs. C. E. Roberts Wicklow.
Harwood	Mrs. Wm. Blezzard	Miss J. Carruthers.
Roseneath	Mrs. B. Halstead	Mrs. F. Nichol.
Ontario, North—		
Altona	Mrs. Thos. Smith	Miss Sadie Stewart, Glasgow.
Beaverton	Mrs. J. McK. McLennan	Mrs. W. R. McTaggart.
Brechin	Mrs. Peter Kelly	Miss Prophet.
Gamebridge	Mrs. J. B. Warren	Miss Ella J. Campbell.
Goodwood	Miss Edith Pugh	Mrs. David Pugh.
Longford	Mrs. Cooper	Miss May Donovan.
O'Connell	Mrs. Wm. Shields	Miss Teresa O'Connor.
Sandford	Mrs. John Thompson	Mrs. Arthur Smith, R.R. No. 1, Uxbridge.
Sunderland	Miss W. T. Bagshaw	Mrs. H. Baldwin.
Zephyr	Mrs. R. Harman	Miss Evelyn Urquhart.
Ontario, South—		
Brooklin	Mrs. N. Dehart	Mrs. Patterson.
Brougham	Mrs. Boyde Burk	Miss Lillie Holtby.
Claremont	Mrs. M. Forsyth	Miss Sara E. Evans.
Columbus	Mrs. P. Cameron	Miss L. E. James.
Greenbank	Mrs. Geo. Real	Miss Hattie Cragg.
Kinsale	Mrs. T. Richardson	Mrs. R. R. Mowbray.
Pickering	Mrs. E. L. Ruddy	Mrs. Stanley Davis.
Shirley	Mrs. Jno. Byers, R.R. No. 3, Burketon	Mrs. J. B. Graham, R.R. No. 3, Burketon.
Whitby	Mrs. Geo. A. Ross	Miss F. Bateman.
Whitevale	Mrs. A. E. Major	Mrs. J. Reid.
Oxford, North—		
Braemar	Mrs. A. S. MacKay, R.R. No. 3, Woodstock	Miss Clarissa Parker, R.R. No. 5, Embro.
Bright	Mrs. D. Aldridge	Miss Olive P. Hewitt.
Drumbo	Mrs. J. D. Cowan	Miss Agnes Paxton.
Embro	Mrs. A. McKinnon	Miss Marian McLeod.
Harrington	Mrs. Ed. Bartley	Mrs. T. Morris.
Kintore	Mrs. Walter Armstrong, Thamesford	Miss Hannah McLeod, R.R. 2, Thamesford.
Lakeside	Mrs. A. Whetstone	Miss Clara A. Vining.
Plattsville	Miss Mary L. King	Mrs. H. G. Murray.
Thamesford	Mrs. C. Brock	Miss E. McFarlan

Institute.	President.	Secretary.
Oxford, South—		
Beachville	Mrs. Wm. McDonald	Miss E. McInnes.
Brownsville		
Burgessville	Mrs. W. W. Lancaster, R.R. No. 1	Mrs. J. W. Cohoe R.R. No. 1.
Curries	Mrs. Thos. Sears	Miss Ella Ross.
Foldens		
Mt. Elgin	Mrs. A. Angood	Mrs. Albert Bell, Verschoyle.
Norwich	Mrs. A. E. Cornwell	Mrs. A. W. Lossing.
Springford	Mrs. Ed. Barnim	Miss Lena Anstice.
Tillsonburg	Mrs. J. B. Reid	Miss M. Mills.
Peel—		
Alton	Mrs. E. D. Barker	Miss Olla Dick.
Belfountain	Mrs. L. Widdis	Miss Jean McBride, R.R. No. 1, Terra Cotta.
Brampton	Mrs. (Dr.) Sharpe	Mrs. E. F. McIntyre.
Caledon (Charleston)	Mrs. Albert Smith	Miss L. Laughlin.
Castlemore	Mrs. Jos. Julian	Miss B. Robinson.
Cheltenham	Mrs. Geo. Love Snelgrove	Miss Susie Davidson, Aloa.
Clarkson & Lorne Pk.	Mrs. L. A. Hamilton, Lorne Park.	Mrs. P. W. Hodgetts, Clarkson.
Inglewood	Mrs. S. J. McBride	Mrs. R. Oldfield.
Huttonville	Mrs. W. J. Hunter, Pleasant	Mrs. John Chisney.
Malton	Mrs. J. McMullin	Miss M. Johnston.
Meadowvale	Miss Jennie Gooderham	Miss Margaret Trevarrow.
Mono Mills	Mrs. S. Mason	Mrs. W. G. Duke.
Palgrave	Mrs. (Dr.) Reynar	Mrs. Wm. Pulford.
Port Credit	Miss Beardmore	Miss A. L. Blakeley.
Snelgrove	Mrs. Allan McLean	Mrs. Fraser Smith.
Streetsville	Mrs. W. J. Drinkwater	Mrs. D. Lindsay.
Perth, North—		
Hampstead	Mrs. James Stewart	Miss E. M. Fleischhauer, Gadshill.
Listowel	Mrs. R. J. Gray	Miss Agnes Cleland.
Listowel West	Mrs. T. W. Jackson, Box 21, Listowel	Miss Queenie Jackson Box 21, Listowel.
Millbank	Mrs. J. J. McFaddin	Miss E. Crookshanks.
Milverton	Mrs. H. Hawke, Newton	Miss Laura Kerr.
Shakespeare	Mrs. John McCallum	Miss B. Robertson.
Perth, South—		
Fullarton	Mrs. J. W. Woodley	Miss Mamie Phipps, Carlingford.
Kirkton	Mrs. Thos. Roadhouse	Miss Sara E. Kemp.
Mitchell	Mrs. Arthur Mutton	Mrs. S. A. Hewitt.
St. Mary's	Mrs. Wm. Dale	Miss Maggie Driver, Science Hill.
Sebringville	Mrs. P. L. Kastner	Miss Laura Kruspe.
Staffa	Mrs. Joseph Worden	Miss Jessie Gillespie, Cromarty.
Tavistock	Mrs. H. Sipple	Mrs. A. T. Bell.
St. Pauls	Mrs. D. G. McBeth	Mrs. Geo. Wood.
Peterboro, East—		
Norwood	Mrs. Cyrus Johnston	Mrs. Thos. Buck.
Warsaw	Mrs. D. Miller	Mrs. Arthur Edwards.
Peterboro, North—		
Clydesdale	Mrs. A. Smith, Chandos	Mrs. A. L. Hawkes, Chandos.
Mt. Julian	Mrs. Charles Lauder	Miss Emma M. Reid.
Prescott—		
Vankleek Hill	Mrs. Stephen Albright	Miss A. Moffatt.
Prince Edward—		
Bloomfield	Miss F. Barker	Mrs. Philip Talcott.
Cherry Valley	Mrs. Wm. R. Browne	Mrs. Wm. C. Haggerty.
Conseçon	Mrs. W. W. Ward	Mrs. Maidens.
Gilbert's Mills	Mrs. W. R. Munro, R.R. No. 3, Demorestville	Mrs. Albroe Cole, R.R. No. 8, Picton.

Institute.	President.	Secretary.
Prince Edward—Con.		
Milford	Mrs. W. B. Scott, R.F.D., Picton.	Mrs. Almond McCrimmon, R.F.D., Picton.
Mountain View	Mrs. Earl Anderson, Rossmore.	Miss Isabel Anderson, Rossmore.
Picton	Mrs. H. M. Moxon, Box 171.	Mrs. H. S. Miller.
Rednersville	Mrs. Alex. Anderson, Rossmore.	Mrs. C. H. Babbit, Rossmore.
Wellington	Mrs. T. J. Montgomery	Mrs. T. S. Stinson.
West Lake	Mrs. Marshall, R.M.D., East Lake Road	Mrs. H. Stanton, East Lake Rd.
Renfrew, North—		
Beachburg	Mrs. Fred. Weedmark	Mrs. Richard Condie.
Bromley	Mrs. James Forrest, R.M.D., Douglas	Mrs. N. Purdie, R.M.D., Douglas.
Forester's Falls	Mrs. J. Brown	Mrs. P. R. Pounder.
Lakeside	Mrs. Jas. Price, Cobden	Miss Rachael Smith, R.M.D. No. 3, Cobden.
Micksburg (Stafford)	Mrs. Laura Rath Leach	Miss Lily Ross.
Queen's Line	Mrs. Isaac Cowie	Miss Katie Roberts.
Westmeath	Mrs. John Wright	Mrs. Harry Bromley, Bromley Line.
Renfrew, South—		
Calabogie	Mrs. A. Craig	Miss Edna M. Box.
Burnstown	Mrs. J. F. Blane, R.M.D., Renfrew	Miss A. C. McLachlan.
Glasgow Station	Mrs. John Affleck	Miss Jessie C. Murphy.
Loch Winnoch		Mrs. W. Neil, Castleford.
Russell—		
Vernon	Mrs. Gilbert Acres	Mrs. J. C. Stuart, Osgoode.
Simcoe, Centre—		
Allenwood	Mrs. Marshall Charles	Mrs. Jack Northgraves.
Anten Mills	Miss Laura Coughlin	Mrs. C. McLaughlin.
Crossland	Miss Maggie Healey	Miss Sara Martin.
Dalston	Mrs. J. W. Brown	Miss Mary Palmer.
Edenvale	Mrs. Jas. Maw, R.M.D., Minesing.	Miss Grace Gilchrist.
Elmvale	Mrs. A. Hickling	Miss Jean Graham, R.M.D., Elmvale.
Hillsdale (Sil. Maple).	Mrs. James Goddard	Miss Coral Jamieson.
Minesing	Mrs. Geo. Crawford	Miss Mary Orchard.
New Flos	Mrs. Thos. Young	Miss Annie Bell, Phelpston.
Phelpston	Mrs. J. H. Hall	Miss Ellie Shanahan.
Randolph	Mrs. James Champion, Penetanguishene	Mrs. J. T. Gilmour.
Wyebridge	Miss J. A. Adams	Mrs. P. Grigg.
Wyevale	Mrs. Wm. Woods	Miss Dora L. Clute.
Simcoe, East—		
Ardtrea	Mrs. John Telford, R.M. No. 3, Orillia	Miss Ruby Swindle, R.M. No. 3, Orillia.
Crown Hill	Mrs. W. G. Gough, R.R. No. 2, Shanty Bay	Miss Winnie Caldwell, R.R. No. 1, Barrie.
Mitchell Square	Mrs. A. A. Rouse, R.M.D., Hawkestone	Mrs. G. Rouse, R.M.D., Hawkestone.
Orillia	Mrs. D. M. Harvie	Mrs. Chalmers.
Shanty Bay	Mrs. Robert Robertson	Miss Bessie Malcolm.
Uhthoff	Mrs. J. Thorburn	Mrs. Leslie J. Warren.
Victoria Harbour	Mrs. C. L. Gonett	Mrs. W. J. Converse.
Warminster	Mrs. W. G. Carson	Miss Pauline Donnelly.
Washago	Mrs. Hope Smith	Mrs. (Rev.) Chas. Brown.
Waubaushene	Mrs. G. T. Smith	Miss R. E. Breech.
Simcoe, South—		
Churchill	Mrs. Thos. Stewart Fennells.	Mrs. Hart Thomas.
Coulson's Hill	Mrs. Donald Sutherland Bradford	Mrs. C. H. Wood, Bradford.
Ivy	**Mrs. Benj. Banting**	Mrs. Geo. Banting.
James' Mills	Mrs. M. R. Faris, Box 9, Bradford	Miss Susie King, R.R. No. 1, Bradford.

Institute.	President.	Secretary.
Simcoe, South—Con.		
Newton Robinson	Mrs. W. Rowe	Mrs. H. Carter, Bond Head.
Stroud	Mrs. Wm. J. Goodfellow, Craigvale	Miss Jennie Warnica, Painswick.
Thornton	Mrs. G. B. Henry	Miss Georgie M. Boake.
Simcoe, West—		
Avening	Mrs. J. A. Coleman, Banda	Miss Jean Murray.
Batteau	Mrs. Geo. Conn	Miss Mildred Gordon.
Creemore	Mrs. W. D. Allen	Miss Florence May.
Duntroon	Mrs. D. J. McGregor	Miss Olive McKee.
Everett	Mrs. Herbert Ludlow	Miss Clara E. Ruthven, R.M.D., Alliston.
New Lowell	Mrs. James Martin	Mrs. William Muir.
Rosemont	Mrs. John Ball, R.R. 1, Alliston	Miss Morrison.
Singhampton	Mrs. Geo. Ewings	Mrs. M. Shields.
Stayner	Mrs. E. McQueen	Miss Annie Reazin.
Sunnidale Corners	Miss Edith Thompson	Miss Alice Ross.
Stormant—		
Avonmore	Mrs. (Dr.) Earle	Mrs. E. Hoban.
Cornwall, Centre	Mrs. W. J. Johnston, Eamer's Corners	Mrs. L. A. Groves.
Finch	Miss G. B. Hamilton	Mrs. J. McQuaig.
Union—		
Clifford	Mrs. J. R. Aitchison	Mrs. John R. Scott.
Drew	Mrs. C. Chilton	Mrs. W. T. Turner, Drew Station.
Teviotdale	Mrs. W. J. Hughes, R.R. No. 1, Palmerston	Miss Rena J. Carter, R.R. No. 2, Cotswold.
Victoria East—		
Bobcaygeon	Mrs. Thos. A. Mills	Mrs. Jos. J. Thurston.
Burnt River	Mrs. John Hodgson	Miss Minnie Dodd.
Cameron	Mrs. Noble Perrin Powles Corners	Mrs. Wm. Fell.
Coboconk	Mrs. Chas. Adams	Mrs. R. J. Windrim.
Fenelon Falls	Mrs. James Lamb	Mrs. M. E. Calder.
Kinmount	Mrs. E. A. White	Mrs. Alex. Morrison.
Omemee	Mrs. Wm. Cottingham	Mrs. R. J. Cornwall.
Pleasant Valley	Mrs. Joseph Moynes, Fenelon Falls	Miss Gertrude Moynes, Fenelon Falls.
Victoria, West—		
Cambray	Mrs. Wm. Webster	Miss Hazel C. MacInnes.
Islay	Mrs. Wm. Wilson Fenelon Falls	Miss M. Avery, Harney.
Linden Valley	Mrs. Wm. Weldon	Miss R. Cullis.
Lindsay	Miss Kate E. Milne	Mrs. W. C. McGregor.
Little Britain	Mrs. David Culbert	Mrs. Richard Avery.
Lorneville	Miss L. Ward	Miss A. McRae.
Manilla	Mrs. Jno. Sonley	Mrs. A. Dixon.
Oakwood	Mrs. W. F. Webster	Mrs. M. H. Gilson.
Reaboro	Mrs. W. I. Reid	Mrs. Wm. Thorn.
Sonya	Miss Maribelle Clarkson, Seagrave	Miss Joan J. Watson.
Valentia	Mrs. C. W. Parkin	Mrs. J. A. Swain.
Woodville	Mrs. R. Thomas	Mrs. Alex. Good.
West Ops	Mrs. T. Wilson, R.M.D., Lindsay.	Miss Edith Hopkins, R.M.D., Lindsay.
Waterloo, North—		
Conestogo	Mrs. J. G. Hurst	Mrs. Geo. Bowman.
Floradale	Mrs. J. B. Snyder	Mrs. Philip Saddler.
Hawkesville	Mrs. B. Ballard	Mrs. I. Weber.
Linwood	Mrs. T. Crookshanks	Miss Evelyn Rowe.
St. Jacobs	Mrs. Elliott Richmond	Miss Maggie Weber.
Wellesley	Miss B. Hastings, Crosshill	Miss L. Bellinger.
West Montrose	Mrs. Frank Snider	Mrs. B. C. Woods.
Winterbourne	Mrs. A. Brown	Miss Jean W. Hamilton.

Institute.	President.	Secretary.
Waterloo, South—		
Ayr	Miss E. D. Watson	Mrs. A. R. Robertson.
Branchton	Mrs. Andrew Pullen	Miss Nettie MacDonald.
Central Dumfries	Mrs. Will Elliot, Galt	Miss Hanna Slater, Galt.
Galt	Mrs. W. Young, Beverly Street.	Mrs. T. W. Rutherford.
Hespeler	Mrs. Geo. Anderson	Mrs. A. Farnworth.
New Dundee	Miss Ida Bergey	Miss Lizzie Bowman.
Preston	Mrs. R. L. Scott	Mrs. B. A. Zeiman.
Welland—		
Allanburg	Mrs. Peter Upper	Miss Jennie Johnson.
Bowen Road	Mrs. Jas. E. Laur, Ridgemount.	Miss Elva Zimmerman, Bridgeburg.
Crowland	Miss Annie Kottmeier, Port Robinson	Mrs. J. A. Zavitz, R. R. No. 1, Welland.
Fonthill	Mrs. M. J. Dalton	Mrs. G. C. Brown.
Humberstone	Mrs. J. Matthews, Port Colborne	Miss E. Box.
Quaker Road	Mrs. J. A. Goodwillie, Welland.	Mrs. H. D. Rice, Welland.
Ridgeway	Mrs. William Pickard	Mrs. Orland Dell.
Stamford	Mrs. A. Higgins, Southend	Mrs. E. Tench, Southend.
Stevensville	Mrs. A. N. Steele	Miss Beatrix E. Durham, Welland.
Welland	Mrs. John Gaiser	Mrs. W. E. Hardison.
Willoughby	Mrs. David Summerville, Chippawa	Miss Louise C. Weaver, Chippawa.
Wellington, Centre—		
Belwood	Mrs. R. McGregor	Mrs. W. W. Edwards.
Bethany	Mrs. John Gammie, Sr., Ariss.	Miss Ethel Thacker, Ariss.
Coningsby	Mrs. Alex. Orr, R. R. No. 1, Hillsburg	Miss E. Annie Burrows, R. R. No. 1, Hillsburg.
Cumnock	Mrs. J. N. Hamilton, Living Springs	Miss Ethel Gingrick, Fergus.
Erin	Mrs. A. Cole	Miss L. Conboy.
Hillsburg		Miss B. Harkness.
Marsville	Mrs. J. K. Thompson	Mrs. Sam Price.
Orton	Mrs. (Rev.) Cole	Miss Mabel Heath.
Ospringe	Mrs. John Campbell	Miss Annie Mae McCutcheon.
Wellington, East—		
Arthur	Miss E. Henry	Mrs. H. J. Colwill.
Cedarville		Miss Sarah McTavish.
Colbeck	Mrs. W. S. Galbraith	Mrs. Jno. Hayes.
Conn	Mrs. H. McPherson	Miss Gertrude Cannon.
Damascus	Mrs. Wm. Anderson	Miss M. Anderson.
Grand Valley	Mrs. M. W. Berwick	Mrs. Alex. Park.
Kenilworth	Miss Gertrude Waters	Mrs. James Wright.
Mount Forest	Mrs. J. J. Cook	Miss Margaret Murphy.
Wellington, South—		
Aberfoyle (Puslinch)	Mrs. C. J. Little, Puslinch	Miss Grace G. McLean, Aberfoyle.
Arkell	Mrs. W. Grieve	Miss Nellie Hume.
Everton	Miss Nellie Abbott	Mrs. G. G. Robertson.
Marden	Mrs. J. L. Carter	Miss H. Atkinson.
Paisley Block	Miss A. Whitelaw, Box 328, Guelph	Miss Alice Barber, Paisley Rd., Guelph.
Rockwood	Mrs. W. Harris	Miss Etta Peal.
Wellington, West—		
Drayton	Mrs. B. J. Garbutt	Mrs. W. J. Shorter.
Moorefield	Mrs. W. H. Walker	Mrs. Wm. Loughram.
Palmerston	Mrs. P. Marion	Mrs. Percy Dungey.
Rothsay	Mrs. Geo. Bilton	Mrs. A. Corbett.

Institute.	President.	Secretary.
Wentworth, North—		
Carlisle	Mrs. P. S. Green	Mrs. Herb. Bennett.
Freelton	Mrs. Beaton	Miss H. McCuen.
Kirkwall & Valens	Mrs. Adam Valens, Valens	Miss Carrie Riddell, Kirkwall.
Millgrove	Mrs. J. Allison	Mrs. Clifford Wreaks.
Orkney	Mrs. W. Thompson	Miss Edith Ferris, Copetown.
Rockton	Mrs. Russell Ireland	Miss Jessie Henderson.
Sheffield	Mrs. Cleveland MacDonald, Branchton	Miss Mary Pringle.
Waterdown	Mrs. William R. Pearson, R. R. No. 2, Hamilton	Miss Jean I. Drummond, R. R. No. 2, Hamilton.
Westover	Mrs. Jno. Sanderson, Ira	Miss Beula M. Shaver.
West Flamboro	Mrs. A. A. Hillbert, Greensville.	Mrs J. F. Thompson.
Wentworth, South—		
Ancaster (Alexandra)	Mrs. R. S. Stevenson	Miss Frances Beven.
Blackheath	Mrs. Irwin Berry	Mrs. T. H. Gowland.
Binbrook	Mrs. Young	Mrs. Murphy.
Carluke	Miss Naomi Smith, Southcote.	Miss J. A. McClure.
Glanford	Mrs. E. T. Boyes	Mrs. Everett Young, Box 48, R. R. 4, Hamilton.
Hannon	Mrs. Jacob McKee	Mrs. J. H. Hannon.
Jerseyville	Mrs. Robert Wood	Miss S. J. Templer, R.R. 1, Copetown.
Mount Hamilton	Mrs. Adam Inch	Mrs. S. E. Grassie, 27 Summit Avenue.
Stony Creek	Mrs. Clough	Mrs. C. E. Hopkins.
Tapleytown	Mrs. Emerson Freel	Mrs. Elmer Hildreth, Vinemount.
Winona	Mrs. W. C. Dawe	Mrs. A. B. Foran.
York, East—		
Agincourt	Mrs. T. A. Paterson, Ellesmere.	Miss Margaret Scott.
Box Grove	Mrs. B. Reesor, Cedar Grove	Miss Eva Reesor.
East Toronto	Miss A. H. Stephenson, 1473 Danforth Avenue	Mrs. Watt, 13 Stephenson Ave.
Highland Creek	Mrs. G. Heron, West Hill	Mrs. W. Spaulding, West Hill.
Markham	Mrs. R. J. Corson	Mrs. John Hare, Mount Joy.
Richmond Hill	Miss A. Trench	Miss Elizabeth McLean.
Scarboro Junction	Mrs. J. Graves	Mrs. W. R. Bell.
Stouffville	Mrs. E. J. Davey	Mrs. Howard Malloy.
Thornhill	Mrs. Moyle, Langstaff	Mrs. D. W. Carruthers, Willowdale.
Victoria Square	Mrs. R. T. Klinck	Miss G. Nelson.
York, North—		
Aurora	Mrs. A. Conover	Mrs. Charles.
Keswick	Mrs. Friend Morton	Mrs. Jesse Stonehouse.
Kettleby	Miss Mary Lemon	Miss Mary Elliott.
King	Mrs. A. B. Wells	Miss A. A. Ferguson.
Laskay	Mrs. T. B. Smeltzer	Mrs. A. Marshall, Strange.
Mount Albert	Mrs. E. Rowen	Mrs. W. H. Shields.
Newmarket	Mrs. C. E. Cane	Miss Dorcas Doane.
Nobleton	Mrs. G. Sampson	Mrs. W. Snider.
Pine Orchard	Mrs. R. A. Starr	Miss M. Hope.
Queensville	Mrs. W. Pegg	Mrs. Frank Milne.
Schomberg	Mrs. Ira Shaw	Mrs. Jas. Kitchen.
Vandorf	Mrs. M. Willson, Aurora	Miss Grace Petch, Aurora.
York, West—		
Edgley	Mrs. Edgar Kennedy	Miss Violet Aitchison.
Elia	Mrs. G. Hisey, R. M. D. No. 2, Weston	Miss M. E. O'Dell, Box 7.

Institute.	President.	Secretary.
York, West.—Con.		
Kleinburg & Nashville	Mrs. T. R. White, Kleinburg	Miss Laura Wardlaw, Kleinburg.
Lambton Mills	Mrs. I. Scott	Mrs. N. C. Walker.
Islington	Mrs. B. Johnston	Mrs. R. H. Tier.
Maple	Mrs. H. Bailey	Miss Gertie Nixon.
Mimico	Mrs. Egles, Humber Bay	Mrs. I. W. Royce.
Thistletown	Mrs. James R. Rowntree, Emery	Miss Vina Atkinson.
Woodbridge	Mrs. W. O. Duncan, Emery	Miss Mary J. Burton.
Weston	Mrs. R. Dawson, Main Street	Miss Alice M. Bull, John St.

NORTHERN DISTRICTS.

District.		Name.	P. O. Address.
Algoma, Centre	President	Mrs. T. C. Dinsmore, Box 797	Sault Ste. Marie.
	Vice-President	Mrs. Chas. Nixon, Box 577	Sault Ste. Marie.
	Secretary-Treasurer.	Mrs. A. H. Huckson, Box 182	Sault Ste. Marie.
Algoma, North Shore	President	Mrs. Jas. Junor	McLennan.
	Vice-President	Mrs. T. B. Perrigo	Echo Bay.
	Secretary-Treasurer.	Miss Laura Shier	McLennan.
Kenora	President	Mrs. J. W. Anderson	Oxdrift.
	Vice-President	Mrs. Chas. Shephard	Bedworth.
	Secretary-Treasurer.	Mrs. D. Hutchison	Dryden.
Manitoulin, East	President	Mrs. A. Trowbridge	Big Lake.
	Vice-President	Mrs. J. King	Mindemoya.
	Secretary-Treasurer.	Mrs. Geo. Hutchison	Sandfield.
Manitoulin, West	President	Mrs. Geo. Emiry	Foxey.
	Vice-President	Mrs. R. Cranston	Spring Bay.
	Secretary-Treasurer.	Mrs. Geo. J. Priddle	Silver Water.
Parry Sound, N.	President	Miss J. Cameron Smith	Powassan.
	Vice-President	Mrs. McDonald	Trout Creek.
	Secretary-Treasurer.	Mrs. O. Byam	Trout Creek.
Parry Sound, S.	President	Mrs. Dr. Freeborn	Magnetawan.
	Vice-President	Mrs. N. Wildfong	Burk's Falls.
	Secretary-Treasurer.	Mrs. Jos. Speers	Burk's Falls.
Rainy River	President	Mrs. J. Carey Smith	Burriss.
	Vice-President	Mrs. M. Robertson	Stratton.
	Secretary-Treasurer.	Mrs. Ernest Darlington	Barnhart.
St. Joseph Island	President	Mrs. J. Frarey	Richard's Landing.
	Vice-President	Mrs. Fish	Carterton.
	Secretary-Treasurer.	Mrs. H. E. Brown	Kentvale.
Temiscamingue	President	Mrs. J. T. Welbourn	Uno Park.
	Vice-President	Mrs. Jas. Hall	Hillview.
	Secretary-Treasurer.	Mrs. Walter Kirstine	Matheson.
Thunder Bay	President	Mrs. R. MacKenzie	Murillo.
	Vice-President	Mrs. F. J. Perry	Slate River.
	Secretary-Treasurer.	Mrs. Jas. McGregor	Slate River.

NORTHERN BRANCHES.

Institute.	President.	Secretary.
Algoma Centre—		
East Korah	Mrs. Geo. Farmer, Steelton	Mrs. Fred. Elliott, Box 61, Steelton.
Goulais Bay	Mrs. Malcolm McLean	Mrs. F. McKaughan.
South Prince	Mrs. Chris. Walls, Sault Ste. Marie	Mrs. Joseph Thompson, Roundwood.
Tarentorus	Mrs. T. C. Dinsmore, Box 797, Sault Ste. Marie	Mrs. E. Figures, Box 568, Sault Ste. Marie.
West Korah	Mrs. Chas. Nixon, 112 Albert St., Sault Ste. Marie	Miss Fannie Knight, Box 876, Sault Ste. Marie.

Institute.	President.	Secretary.
Algoma East—		
Bruce Mines (Patricia)	Miss Mabel Beilhartz	Miss Josephine Frejd.
Johnston School No. 3	Jno. Coleman, Bruce Mines	Mrs. Hugh Orr, Bruce Mines.
		Mrs. M. Bowers, Massey Station.
Sowerby	Mrs. Wm. Dumont	Mrs. Geo. Hendry.
		Treas. Mrs. Sam. Bell.
Plummer & Leeburn	Mrs. Campbell, Leeburn	Miss N. McLeod, Leeburn.
Algoma North Shore—		
Desbarats	Mrs. Jas. R. Stobie	Mrs. Matthew Haney.
Echo Bay	Miss Maud McWatters	Miss Lottie Redman.
MacLennan	Mr. Jas. Junor	Miss Laura Shier.
Kenora—		
Barclay	Mrs. W. F. Bicknell, Bedworth	Mrs. Chas. Shepherd, Bedworth.
Dryden	Mrs. A. L. Orvis	Mrs. T. Scott.
Eagle River		Mrs. N. Lucas.
Kenora	Mrs. Jas. Robinson	Miss Edith Elliott.
Oxdrift	Mrs. J. W. Anderson	Mrs. Syl. Hall.
Manitoulin East—		
Big Lake	Mrs. A. I. Brown	Miss M. McCullough.
Big Lake, S. Sec.	Mrs. A. Ashley	Miss Mary Thompson.
Carnarvon	Mrs. P. Caddel, Providence Bay	Mrs. Chas. Lee, Providence Bay.
Green Bay	Mrs. H. Nevills	Miss Vie Armstrong.
Little Current	Mrs. D. Hay	Mrs. R. Brown.
Manitowaning	Mrs. Oswald Hinds	Mrs. John Cowan.
Mindemoya	Mrs. J. King	Miss K. Cushing.
South Bay Mouth	Mrs. A. Oakes	Miss Lena Bennett.
Tehkummah	Mrs. Jas. Turnbull, Snowville	Miss E. Baxter, Sandfield.
Manitoulin West—		
Barrie Island	Miss Emma Noble	Miss Ada Long.
Gordon's	Mrs. Chas Burt, Gore Bay	Miss Margaret L. Johnston, Gore Bay.
Grimesthorpe	Mrs. Robt. Cranston, Spring Bay	Miss Sadie E. McColman.
Kagawong (Billings)	Mrs. D. Munro	Miss Ethyl Foster.
Kagawong	Mrs. James Carter	Miss Lizzie Thompson.
Poplar	Miss Sarah Sides	Miss Maggie Robinson.
Silver Water	Mrs. H. A. Sims	Miss Lillian Farthing.
Nipissing East—		
Calvin	Mrs. Wm. Leach, Eau Claire	Miss Rachel Stewart, Eau Claire.
Mattawa	Mrs. J. H. Bell	Mrs. Herbert Hazelwood.
Nipissing West—		
Feronia	Mrs. S. J. Daly	Miss Wilhelmina Bonany.
Lee Valley	Mrs. Wm. Hunt	Miss Mildred V. McMillan, via Massey Station.
Parry Sound East—		
Arnstein	Mrs. Schwalm	Mrs. Fred Weller.
Burk's Falls	Mrs. N. Wilfong	Mrs. E. A. Church.
Emsdale	Mrs. A. Galbraith	Miss C. L. Lean.
Doe Lake	Mrs. Walter Judd	Mrs. A. J. Alexander, Royston.
Golden Valley	Mrs. E. J. Murphy	Miss Lizzie Murphy.
Granite Hill	Mrs. Joseph Booth, Commanda	Mrs. John Clarke.
Loring	Mrs. F. W. Fleming	Mrs. A. W. Sinclair.
Hotham	Mrs. J. H. Davis	Miss Irene Davis.
Magnetawan	Mrs. J. S. Freeborn	Miss E. L. Snuggs.
Mecunoma (Lount)	Mrs. F. N. Fowke	Miss T. Ulrich.
Midlothian	Mrs. Geo. Ford	Miss Emma Rousell.
Powassan	Mrs. D. C. Bingham	Miss Teresa Gough.
Restoule	Mrs. Thomas Stevenson	Mrs. Wellington Edwards, Carr.
South River	Mrs. Wm. Unger	Miss M. Erb.
Sundridge	Mrs. A. E. Peters	Mrs. D. D. Gibbon.
Trout Creek	Mrs. G. McFadden	Mrs. O. Byam.
		Treas. Mrs. C. Culpack.

Institute.	President.	Secretary.
Rainy River—		
Barnhart	Mrs. Harvey Shaw	Mrs. David Sanderson.
Barwick	Mrs. Fink	Mrs. I. Fearon.
Big Fork	Mrs. A. McDonald	Mrs. G. W. Tattrie.
Burriss	Mrs. Niles Kennett	Miss Black.
Emo.	Mrs. R. T. Corrigan	Mrs. John Durand.
Matherford	Mrs. Bert Wilson, Emo	Mrs. Thos. Sutcliffe, Emo.
Shenston	Mrs. McKenzie	Miss M McPherson.
Sleeman	Mrs. A. J. Hunter	Mrs. L. Lee.
Stratton	Mrs. Wm. Weir	Mrs. Alex. Anderson.
St. Joseph Island—		
Carterton	Mrs. J. Forter	Mrs. C. F. Crowder.
Kentvale	Mrs. A. Grexton, Harmony	Mrs. F. B. Kent.
Richard's Landing	Mrs. Jos. Frarey	Mrs. G. S. Lay.
Temiscamingue—		
Bucke Township	Mrs. Robt. Little, Haileybury	Miss Marion McLean, Haileybury.
Charlton	Mrs. Kenny	Mrs. J. McAuley.
Chester's Corners	Mrs. E. Alexander, New Liskeard	Mrs. R. D. Chester, New Liskeard.
Earlton	Mrs. W. T. Cummer	Mrs. J. Elsworth.
Englehart	Mrs. Alex. Clark	Mrs. T. P. Watson.
Hanbury	Mrs. W. G. Willars	Mrs. H. R. Baker.
Heaslip	Mrs. R. Perryman	Mrs. Elmer Heaslip.
Hilliardton	Mrs. Donald McNair	Mrs. Geo. W. Tucker.
Hillview	Mrs. R. G. Howie	Miss Elsie Hall.
Matheson	Mrs. W. Kirstine	Mrs. W. A. Corner.
Milberta	Mrs. Joseph Henderson	Miss Isabel G. Burke.
New Liskeard	Miss J. Ferguson, Box 614	Mrs. S. A. Hogg, Box 379. Treas. Mrs. E. F. Earle.
North Cobalt	Mrs. Dan. Dugan	Mrs. John McCuaig.
Thornloe	Mrs. Chas. Johnson	Miss Hazel Backus, Earlton.
Uno Park	Mrs. Jno. Bowes	Mrs. J. T. Welbourn.
Thunder Bay—		
Carter's	Mrs. R. Davidson, Stanley Jct.	Mrs. T. C. Carter, Stanley Jct.
Conmee	Mrs. H. Hamm, Kakabeka Falls	Mrs. Walter Groves.
Dorion	Mrs. H. T. Bryan	Miss Alice M. Broughton.
Hymer's	Mrs. Wilson Hagan	Mrs. W. H. Jordan.
McIntyre School No. 3	Mrs. R. Hindman, Port Arthur.	Mrs. W. Gratton, 76 Ontario St., Port Arthur.
Murillo	Mrs. H. Moffat	Mrs. C. S. Merkley.
Ouimet	Mrs. A. Gibley	Miss D. Atkinson, Dorion Station.
O'Connor	Mrs. C. O. Garbutt	Mrs. J. H. Leggott.
Port Arthur	Mrs. John Stirrett, 82 Crown St.	Mrs. J. E. Maine. 112 Banning Street.
Slate River Valley	Mrs. W. A. Merritt, Moose Hill.	Mrs. Jas. McGregor.
South Gillies	Mrs. W. Couch	Mrs. E. Lee.
West Ft. William	Mrs. Jas. Gowanlock	Mrs. B. O. Allen, 421 S. Archibald Street.

REPORT

OF THE

WOMEN'S INSTITUTES

OF THE

Province of Ontario

1913

PART II.

List of Meetings and Speakers

(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE, TORONTO)

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1913

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TORONTO

Women's Institutes of Ontario

SUMMER SERIES OF MEETINGS.

Announcement of Superintendent 1913.

Part II. of the Women's Institute Report, presented herewith, contains announcement of summer series of meetings, including speakers and their subjects.

Lady lecturers were sent to some 372 meetings held under the joint auspices of the Farmers' and Women's Institutes during the winter season of 1912-13, while speakers are being furnished for about 750 meetings during late May, June, and early July.

The influence of the Institute is gradually extending until we now have 750 branches in 92 electoral districts with a membership of over 23,000. The total attendance at Women's Institute meetings in 1911-12 was 177,342, with a considerable increase for the current year.

While the main efforts of the Women's Institutes continue to be towards greater efficiency in the everyday activities of the woman in the home—the woman who has a house to keep and a family to clothe and feed—due prominence is given to sociability among the members and to various efforts towards community betterment. From the beginning of the Institute work until the present, more or less attention has been given, through the literature published and the lecturers sent occasionally by the Department, to food topics—comparative value, methods of preparation and cooking. These efforts have not done much beyond impressing the women of the rural district with the value of such instruction. When the Department offered systematic courses in Cooking, Home Nursing and Sewing, consisting of from ten to fifteen lectures, according to the line of work chosen, the members readily took advantage of the offer. This promises to develop into a very important branch of rural education of the grown-ups, as well as the girls and young women.

The subjects announced in this volume will indicate the lines of work which are receiving attention. The Institutes continue active in assisting in and encouraging civic improvement, shelters for children, rest rooms, the establishment of libraries, and various other forms of community interests.

During the past year the Institutes have come into more prominent and favorable notice throughout Ontario, and the other Provinces of the Dominion hearing of the excellent work done, are putting forth efforts, and in most cases with considerable success, to establish similar work in their rural districts. The Institutes are not only in themselves an effective organization which is accomplishing much more than its most ardent advocates hoped for, but is a medium through which many other organizations are able to get into touch with the best women of the Province. Child Welfare, the prevention and treatment of tuberculosis, control of contagious diseases, medical inspection, school gardens, etc., have been stimulated through the co-operation of the Institutes.

Advice to District Officers.

The District Officers are held responsible for the following:—

(*a*) Arrange for date and place of district annual meeting in accordance with the wishes of the majority of the branches. Advertise this thoroughly by

sending notice to the representatives appointed by the various branches, as well as to the secretary of each branch. This meeting should be held not later than the 20th of June.

(*b*) Advertise all meetings included in summer series. See pages 39 and 40 of Hand Book for directions.

(*c*) Arrange a definite programme for each point. Only one speaker will be furnished for the great majority of meetings. It will, therefore, be necessary to furnish some local assistance. This will be insisted upon where an evening meeting is held. It would be well for one of the district officers to give a short address at each place of meeting. A short paper or address from some local person upon a subject of general interest to the members should be arranged for and one or two selections of music as well.

Advertise for a definite hour, say 2 or 2.30 p.m.; and, if an evening session is desired, 8 p.m., and start the meeting at the time announced.

One session is preferable to two. We strongly advocate an afternoon meeting only. Departmental delegates will not be available for Saturday evening meetings.

Have a definite understanding with the officers at each point as to method and extent of advertising.

Utilize the local papers in advertising.

See that definite announcements are made in all advertisements as to hall or other place of meeting at each point to be visited.

Make your announcement for each session as full as possible, *i.e.*, give the names of the speakers and the topics to be taken up by each.

In some places it is not necessary to get out large posters to advertise the meetings. In many sections, however, the large poster will result in a much increased attendance.

When meetings are announced for places at which there is no organization, pay special attention to the matter of advertising. Secure some local persons to assist you and become responsible for hall, entertainment, etc.

(*d*) Arrange for *transportation* and *entertainment* of the delegate or delegates sent to the summer series of meetings, except from Saturday night to Monday morning and when travelling between ridings. In making arrangements for transportation, please keep in view the route which will likely be taken by the delegate in reaching the place to be first visited after leaving your riding.

Send copies of advertising material to the delegate or delegates and notify them as to what arrangement has been made for transportation between places in the ridings and how to reach the first place of meeting.

Notify the delegate as to when and where she will be met by the district officer or officers.

Advice to Branch Officers.

Give your district secretary full particulars regarding arrangements for your local meetings, indicating the addresses, musical selections, or other assistance which will be given the delegate; also let the district secretary know what advertising you are prepared to do locally. See pages 39 and 40 of the Hand Book for advice regarding advertising. Do not fail to have your members give invitations to other women in the district to attend the meetings.

The branch is responsible for the entertainment of the delegates, and it may

be that you can render assistance in the transportation of delegates as well. Notify the district secretary as to what you are prepared to do towards this.

See that the hall in which the meeting is to be held is properly cleaned, lighted and ventilated.

Write direct to delegate at least two weeks before your meeting is to be held, at her home address, or at some point in the series of meetings, notifying her of the topics chosen for your local meeting. Notify the delegate as to what provision has been made for her entertainment.

When only one delegate is furnished by the Department, it is advisable to have only the one session, an afternoon meeting. Two sessions will be allowed only upon condition that considerable assistance is given at the evening meeting.

Delegates are not prepared to attend Saturday evening meetings.

Lunches and picnics are an enjoyable feature of the summer meetings. The delegates should, however, be given an opportunity for proper rest and regular meals.

Make definite arrangements for your branch annual meeting to be held at least two weeks before the district annual; and see to it that a report of the meeting, together with the names of the representatives appointed to attend the district annual meeting, is sent to the district secretary at least ten days before the date of district annual meeting. It is advisable to name persons to take place of regularly appointed representatives who cannot attend District Annual. It is desirable to have every branch fully represented at District Annual.

Those Institutes which have printed programmes of the monthly meetings should send one to the delegate, in order that she may know the nature of the work done and thus be in a position to give advice as to ways and means of making the work of still greater interest and value. It would also be well to inform the delegate as to the strong features, needs and difficulties of the local Institute.

General Notes.

Ask questions at the meeting, not afterwards; then all will get the benefit of the answers.

Bring notebook and pencil with you.

If the Institute has been a benefit to you, ask others to join.

You cannot expect to have successful meetings without advertising thoroughly.

Do not advertise meetings for Saturday evenings.

Women and girls over fourteen will be made welcome at the afternoon meetings. Both sexes of all ages are invited to the evening sessions.

The delegates who will attend the summer series of meetings will attend a conference of workers in Toronto, with a view to receiving instruction and inspiration regarding the work in hand. An exchange of views and experience on the part of the workers, and a general understanding as to the policy of the Department will tend to make the coming series of the greatest benefit to the members.

While the Department and delegates have an important part to perform in making the summer series a success, a great responsibility rests upon the local officers in thoroughly advertising the meetings and in urging the members and their friends to attend. Do not fail to notify the delegates as to the arrangements which have been made.

Geo. A. Putnam,
Superintendent.

SUMMER SERIES OF WOMEN'S INSTITUTE MEETINGS, 1913.

(See Page 30 for Index.)

Afternoon sessions will, for the most part, be held at 2 or 2.30 o'clock, and evening sessions at 8 o'clock. The officers of the Institutes concerned, however, have the privilege of choosing the exact hour and making local announcements accordingly. "Aft" indicates an afternoon session only—"Eve" an evening session only. At other places it is expected an afternoon session will be held, and possibly an evening session. Readers are referred to local announcements for full particulars as to speakers, subjects, hour of meeting, etc.

DIVISION 1.—Mrs. W. Dawson, Parkhill.

1. Caledonia, Hall	Haldimand		aft.	May	26
2. Springvale, Hall	"		aft.	"	27
3. Clanbrassil, Church Basement	"		eve.	"	28
4. Decewsville, Hall	"		aft.	"	29
5. Erie, Private Residence	"		aft.	"	30
6. Garnet, Private Residence	"		aft.	"	31
7. Jarvis, Hall	"		aft.	June	2
8. Nanticoke, Hall	"		aft.	"	3
9. Cheapside, Hall	"		aft.	"	4
10. Rainham Centre	"			"	5
11. Bingham Road	"		aft.	"	6
12. Canfield, Church	"			"	7
13. Fonthill, Mrs. Dalton's Home	Welland		aft.	"	9
14. Fulton, Mrs. D. Merritt's Home	Monck		aft.	"	10
15. Smithville, Brant's Hall	"			"	11
16. Rosedene, Mrs. C. Will's Home	"		aft.	"	12
Disciple Church	"		eve.	"	12
17. Fenwick, Methodist Church	"			"	13
18. Winger, Disciple Church	"			"	14
19. Attercliffe Station, School	"			"	16
20. Canboro, Town Hall	"		aft.	"	17
21. Dunnville, Knox Church	"		aft.	"	18
22. Humberstone, Town Hall	Welland		aft.	"	20
23. Ridgeway, Library Room	"			"	21
24. Bowen Road, School House	"		aft.	"	23
25. Stevensville, Mrs. Wm. Robinson's	"		aft.	"	24
26. Willoughby Township Hall	"		aft.	"	25
27. Crowland, Town Hall	"		aft.	"	26
28. Welland, Town Hall	"		aft.	"	27
29. Quaker Road, Mrs. A. Bridgeman's	"		aft.	"	28
30. Allanburg, Town Hall	"		aft.	"	30
31. Stamford, Southend School	"		aft.	July	2
32. Niagara Falls	"			"	3

DIVISION 1 (*a*).—Miss. E. J. Guest, Belleville.

1. Hagersville	Haldimand		aft.	June	23
2. York, Hall	"		aft.	"	24
3. Cayuga, Private Residence	"		aft.	"	25
4. Gill, Methodist Church	"			"	26
5. Selkirk, Dr. Fry's Home	"		aft.	"	27
6. Sandusk, Mrs. J. R. Pond's Home	"			"	28

DIVISION 2.—Miss L. Moodie, Toronto, May 26 to July 2.
Miss S. Campbell, Brampton, May 26 to 29.

1.	Waterdown, McGregor's Hall	North Wentworth		aft.	May 26
2.	Millgrove, Town Hall	"	"	aft.	" 27
3.	Orkney, Oddfellows' Hall	"	"	aft.	" 28
4.	Sheffield	"	"	aft.	" 29
5.	Freelton, Mrs. McQueen's Home	"	"	aft.	" 30
6.	Carlisle, Orange Hall	"	"	aft.	June 2
7.	Niagara-on-the-Lake, Masonic Hall	Lincoln		aft.	" 3
8.	Queenston	"		aft.	" 4
9.	Jordan, Victoria Hall	"		aft.	" 5
10.	Beamsville, Reception Hall	"		aft.	" 6
11.	Grimsby, Hall	"		aft.	" 7
12.	Winona	South Wentworth		aft.	" 9
13.	Tapleytown, Mrs. Chas. Marshall's	"	"	aft.	" 10
14.	Stoney Creek, Institute Hall	"	"	aft.	" 11
15.	Mt. Hamilton, Mrs. A. Inch's Home	"	"	aft.	" 12
16.	Hannon	"	"	aft.	" 13
17.	Binbrook, Temperance Hall	"	"	aft.	" 14
18.	Blackheath	"	"	aft.	" 16
19.	Glanford, Methodist S. S. Room	"	"	aft.	" 17
20.	Carluke, Mrs. L. Smith's Home	"	"	aft.	" 18
21.	Ancaster, Mrs. Regan's Home	"	"	aft.	" 19
22.	Jerseyville, Henderson's Hall.	"	"	aft.	" 20
23.	St. George	North Brant		aft.	" 21
24.	Glen Morris, Foresters' Hall	"	"	aft.	" 23
25.	Paris. Central School	"	"	aft.	" 24
26.	Tranquility, Moyle Schoolhouse	"	"	aft.	" 25
27.	Tutela, Bell Homestead	"	"	aft.	" 26
28.	Onondaga, Mrs. C. Edward's Home	"	"	aft.	" 27
29.	Middleport, Mrs. Jas. Douglas' Home	"	"	aft.	" 28
30.	Langford, Mrs. H. M. Vanderlip's Home	"	"	aft.	" 30
31.	Cainsville, Mrs. J. F. Carmondy's Home	"	"	aft.	July 2

DIVISION 3.—Miss D. Hughes, Toronto, May 27 to July 8.
Miss E. J. Guest, Belleville, July 2 to 8.

1	Fingal, Town Hall	West Elgin			May 27
2.	Iona, Town Hall	"	"		" 28
3.	Wallacetown, Town Hall	"	"	aft.	" 29
4.	West Lorne, Town Hall	"	"		" 30
5.	Shedden	"	"	aft.	" 31
5 (*a*).	Rodney, Town Hall	"	"	eve.	" 31
6.	Highgate, Methodist Church	East Kent		aft.	June 2
7.	Ridgetown, Municipal Hall	"	"	aft.	" 3
8.	Guilds, Mrs. A. Wiley's Home	"	"	aft.	" 4
9.	Cedar Springs, Methodist Church	West Kent		aft.	" 5
10.	Port Alma, Talbot St. Church	"	"	aft.	" 6
11.	Wheatley, Methodist Church	"	"	aft.	" 7
12.	Leamington. Forester's Hall	South Essex		aft.	" 9
13.	Kingsville, Town Hall	"	"	aft.	" 10
14.	Harrow, Methodist Church	"	"	aft.	" 11
15.	Cottam, Foresters' Hall	"	"	aft.	" 12
16.	Essex, Town Hall	"	"	aft.	" 13
17.	Amherstburg, Town Hall	"	"	aft.	" 14
18.	Oldcastle, Town Hall	North Essex		aft.	" 16
19.	Maidstone, School House No. 11	"	"	eve.	" 17
20.	Maidstone Cross, R. C. Hall	"	"	eve.	" 18
21.	Woodslee, Pembleton's Hall	"	"	aft.	" 19
22.	Staples, Methodist Church	"	"	aft.	" 20
23.	Comber, Town Hall	"	"	aft.	" 21
24.	Tilbury, Methodist Church	West Kent			" 23
25.	Fletcher	"	"	aft.	" 24
26.	Valetta, Town Hall	"	"	eve.	" 24
27.	Quinn, Union Hall	"	"		" 25
28.	Irwin, Union Hall	"	"	aft.	" 26
29.	Wallaceburg	"	"		" 27

30. Eberts, Township Hall	West	Kent	aft.	June	28
31. Kent Bridge, Langford's Hall	East	Kent	aft.	"	30
32. Wabash	"	"	aft.	July	2
33. Dawn Mills	"	"		"	3
34. Croton, Young's Hall	"	"	aft.	"	4
35. Thamesville Presbyterian Church	"	"	aft.	"	5
36. Botany, Pres. S. S. Room	"	"	aft.	"	7
37. Bothwell, Vincent's Hall	"	"		"	8

Division 4.—Mrs. L. Rose Stephen, Huntingdon, Que., May 28 to June 14.
Miss H. M. Goswell, Port Arthur, June 16 to July 2.

1. Hartford	North	Norfolk		May	28
2. Windham Centre	"	"		"	29
3. Vittoria	South	Norfolk	aft.	"	30
4. Delhi	North	Norfolk		"	31
5. Courtland	"	"		June	2
6. Guysboro	"	"	aft.	"	3
7. Fairgrounds, Mrs. W. Park's Home	South	Norfolk		"	4
8. Bayham, Church	East	Elgin	aft.	"	5
9. Luton, Church	"	"	aft.	"	6
10. Aylmer, Dr. Backus' Home	"	"	aft.	"	7
11. Mapleton, Private Residence	"	"	aft.	"	9
12. Lyons, Town Hall	"	"		"	10
13. Springfield, Muller's Hall	"	"		"	11
14. Brownsville	South	Oxford	aft.	"	12
15. Tillsonburg, Dr. Reed's Lawn	"	"	aft.	"	13
16. Mount Elgin, Methodist Church	"	"	aft.	"	14
17. Springford, Baptist Church	"	"	aft.	"	16
18. Norwich, Methodist Church	"	"	aft.	"	17
19. Burgessville, Baptist Church	"	"	aft.	"	18
20. Curries, Methodist Church	"	"	aft.	"	19
21. Beachville, Library Hall	"	"	aft.	"	20
22. Thamesford	North	Oxford	aft.	"	21
23. Kintore. C. O. O. F. Hall	"	"	aft.	"	23
24. Lakeside, Hall	"	"	eve.	"	24
25. Harrington, Hill's Hall	"	"	aft.	"	25
26. Embro, Town Hall	"	"		"	26
27. Braemar	"	"		"	27
28. Bright	"	"	aft.	"	28
29. Plattsville, Methodist Church	"	"	aft.	"	30
30. Princeton	"	"	aft.	July	2

Division 5.—Miss M. V. Powell. Whitby.

1. Blackwell	West	Lambton	aft.	May	26
2. Mandaumin	"	"	aft.	"	27
3. Lucasville, Mrs. F. C. Kewley's Home	"	"	aft.	"	28
4. Osborne, Mrs. R. Sharpe's Home	"	"	aft.	"	29
5. Colinville, Presbyterian Church	"	"	aft.	"	30
6. Wilkesport, Methodist Church	"	"	aft.	"	31
7. Thornyhurst	"	"	aft.	June	2
8. Becher, Methodist Church	"	"	aft.	"	3
9. Newbury, Town Hall	West	Middlesex	eve.	"	4
10. Wardsville, Town Hall	"	"	eve.	"	5
11. Appin, Town Hall	"	"		"	6
12. Mt. Brydges, Methodist Church	"	"	aft.	"	7
13. Strathroy, St. John's Hall	"	"	aft.	"	9
14. Napier, Town Hall	"	"	aft.	"	10
15. Kerwood, I. O. O. F. Hall	"	"	aft.	"	11
16. Komoka. Hall	North	Middlesex	aft.	"	12
17. Lobo, Masonic Hall	"	"	aft.	"	13
18. Coldstream Town Hall	"	"		"	14
19. Beechwood, Private Residence	"	"	aft.	"	16
20. Ailsa Craig	"	"	aft.	"	17
21. Sylvan, Private Residence	"	"	aft.	"	18
22. Parkhill, Institute Rooms.	"	"	aft.	"	19

23. Greenway, Wilson's Hall	North Middlesex		aft.	June 20
24. Lucan, Private Residence	" "		eve.	" 23
25. Mooresville, Maccabees' Hall	" "		aft.	" 24
26. Blake	South Huron			" 25
27. Exeter, Town Hall	" "			" 26
28. Birr, Private Residence	East Middlesex			" 27
29. Hyde Park, Private Residence	" "		aft.	" 28
30. Wellburn, Private Residence	" "			" 30
31. Thorndale, Private Residence	" "		aft.	July 2
32. Wilton Grove, Presbyterian Church	" "		aft.	" 3
33. Belmont, Church	" "			" 4
34. Harrietsville, Private Residence	" "		aft.	" 5
35. Crampton, Church	" "		aft.	" 7

Division 6.—Miss M. Govenlock, Seaforth.

1. Petrolea. Town Hall	West Lambton		eve.	June 17
2. Brigden, Taylor's Hall	" "		aft.	" 18
3. Bentpath	" "		aft.	" 19
4. Rutherford, Town Hall	" "		eve.	" 20
5. Oakdale, Presbyterian Church	" "		aft.	" 21
6. Florence, Presbyterian Church	East Lambton		eve.	" 23
7. Shetland, Methodist Church	" "			" 24
8. Aughrim	" "			" 25
9. Inwood, Foresters' Hall	" "		aft.	" 26
10. Brooke, Rosedale	" "		aft.	" 27
11. Alvinston, Code's Hall	" "		aft.	" 28
12. Watford, Town Hall	" "		aft.	" 30
13. Warwick, Foresters' Hall	" "		aft.	July 2
14. Uttoxeter, Orange Hall	" "		aft.	" 3
15. Camlachie	" "		aft.	" 4
16. Forest, Carnegie Library	" "		aft.	" 5

Division 7.—Miss E. Robson, Ilderton, May 27 to 31.
Miss A. Speers, Toronto, May 27 to June 27.

1. Sheridan, Sheridan Hall	Halton		aft.	May 27
2. Trafalgar, Postville Hall	"		aft	" 28
3. Burlington, Public Library	"		aft	" 29
4. Esquesing	"		aft	" 30
5. Norval, Mrs. Hunter's Home	"		aft	" 31
6. Georgetown	"		aft.	June 2
7. Ballinafad. Town Hall	"		aft.	" 3
8. Acton, Council Chamber	"		aft.	" 4
9. Everton	South Wellington			" 5
10. Rockwood, Friends' Church	" "		aft.	" 6
11. Arkell, School House	" "		eve.	" 6
12. Marden, Private Residence	" "		aft.	" 7
13. Paisley Block, Private Residence	" "		eve.	" 7
14. Bethany, Methodist Church	Centre Wellington		aft.	" 9
15. Cumnock, Presbyterian Church	" "		aft.	" 10
16. Belwood, Town Hall	" "		aft.	" 11
17. Orton, Methodist Church	" "		aft.	" 12
18. Marsville, Orange Hall	" "		aft.	" 13
19. Ospringe, Mrs. Jas, Stewart	" "		aft.	" 16
20. Coningsby, Private Residence	" "		aft.	" 17
21. Erin, Mrs. A. Gale's Home	" "		aft.	" 18
22. Grand Valley, Carnegie Hall	East Wellington			" 19
23. Colbeck, Hall	" "		aft.	" 20
24. Damascus. Township Hall	" "			" 21
25. Arthur, Kennedy's Hall	" "			" 23
26. Kenilworth, Township Hall	" "		aft.	" 24
27. Mount Forest, Allen's Hall	" "		aft.	" 25
28. Conn	" "		aft.	" 26
29. Cedarville	" "			" 27

DIVISION 8.—Mrs. E. B. McTurk, Lucan.

1. Mimico, Presbyterian Church	West	York	aft.	May	27
2. Islington, Private Residence	"	"	aft.	"	28
3. Lambton, Mrs. J. Scott's Home	"	"	aft.	"	29
4. Weston, Dufferin Hall	"	"	aft.	"	30
5. Thistleton	"	"	aft.	June	2
6. Elia, Private Residence	"	"	aft.	"	3
7. Edgely, Mrs. E. Kennedy's Home	"	"	aft.	"	4
8. Maple, Methodist Church	"	"		"	5
9. Woodbridge	"	"		"	6
10. Castlemore, Ebenezer Tp. Hall	Peel		aft.	"	9
11. Caledon East	"			"	10
12. Mono Mills, Hall	"			"	11
13. Alton, Hall	"			"	12
14. Belfountain	"		aft.	"	13
15. Cheltenham, Mrs. Geo. Henry's Home	"		aft.	"	14
16. Brampton, F. Hutton's Farm	"		aft.	"	16
17. Malton	"		aft.	"	17
18. Streetsville, Library Hall	"		aft.	"	18
19. Clarkson	"		aft.	"	19
20. Ayr, Library Hall	South	Waterloo	aft.	"	20
21. New Dundee. Private Residence	"	"	aft.	"	21
22. Central Dumfries, Mrs. Tom Elliott's Home.	"	"	aft.	"	23
23. Branchton, Foresters' Hall	"	"	aft,	"	24
24. Galt, Mrs. Gardner's Residence	"	"	aft.	"	25
25. Preston, Mrs. J. Wirsching's Home	"	"	aft.	"	26
26. St. Jacobs, Private Residence	North	Waterloo	aft.	"	27
27. Conestego, Private Residence	"	"	aft.	"	28
28. Winterbourne, St. Andrew's Hall	"	"	aft.	"	30
29. West Montrose	"	"	aft.	July	2
30. Floradale, Mrs. Slimmon's Home	"	"	aft.	"	3
31. Hawkesville, Ballard's Hall	"	"	aft.	"	4
32. Linwood, Schnurr's Hall	"	"	aft.	"	5
33. Wellesley, Town Hall	"	"		"	7

DIVISION 8 (a).—Mrs. W. H. Ferguson, Strathroy.

1. Port Credit, Public Library	Peel		aft.	June	16
2. Kleinburg, Private Residence	West	York	aft.	"	17
3. Nobleton, Methodist Church	North	York	aft.	"	18
4. Palgrave	Peel			"	19
5. Snelgrove	"			"	20

DIVISION 9.—Mrs. J. Phillips, Toronto, May 27 to June 6.
Mrs. G. H. Greer, Hamilton, May 27 to July 10.

1. Ohsweken, Parish Hall	South	Brant	aft.	May	27
2. Burtch, Private Residence	"	"	aft.	"	28
3. Mohawk. Private Residence	"	"	aft.	"	29
4. Oakland, Private Residence	"	"	aft.	"	30
5. East Oakland, Private Residence	"	"	aft.	"	31
6. Scotland, Private Residence	"	"	aft.	June	2
7. Falkland, Mrs. C. Knill's Home	"	"	aft.	"	3
8. Whiteman's Creek, Bethel Church	"	"	aft.	"	4
9. Burford, Rutherford's Hall	"	"	aft.	"	5
10. Cathcart, Private Residence	"	"	aft.	"	6
11. New Durham, Methodist Church S. Room	"	"	aft.	"	7
12. Tavistock, Russell's Hall	South	Perth	aft.	"	9
13. St. Paul's, Township Hall	"	"	aft.	"	10
14. Kirkton, Aberdeen Hall	"	"	aft.	"	11
15. Fullarton, Mrs. Wilson's Home	"	"	aft.	"	12
16. Staffa, Township Hall	"	"	aft.	"	13
17. Mitchell, Town Hall	"	"	aft.	"	14
18. Sebringville, Private Residence	"	"	aft.	"	16
19. Hampstead. Private Residence	North	Perth		"	17
20. Milverton, Mrs. Wm. Grosch's Home	"	"		"	18
21. Millbank, Ritter's Hall	"	"		"	19
22. Listowel Private Residence	"	"	aft.	"	20

23. Palmerston, Anderson's Hall	West Wellington		aft.	June 21
24. Rothsay, Orange Hall	"	"	aft.	" 23
25. Teviotdale, Cotswold, S. S. Hall	Union		aft.	" 24
26. Clifford, Town Hall	"		aft.	" 25
27. Lakelet	"		aft.	" 26
28. Drew, Temperance Hall	"		aft.	" 27
29. Ayton, School House	South Grey		aft.	" 28
30. Hanover, Miller's Hall	"	"	aft.	" 30
31. Elmwood, Miss Lowrie's Home	"	"	aft.	July 2
32. Louise, Miss M. J. Hastie's Home	"	"	aft.	" 3
33. Dornoch	"	"	aft.	" 4
34. Durham, Town Hall	"	"	aft.	" 5
35. Dromore, Russell Hall	"	"	aft.	" 7
36. Robb, Mrs. E. Robb's Home	"	"	aft.	" 8
37. Holstein. Agric. Hall	"	"	aft.	" 9
38. Shakespeare, Temperance Hall	North Perth		eve.	" 10

DIVISION 10.—Miss B. Gilholm, Bright.

1. Allenford, Methodist Church	West Bruce			May 27
2. Tara, Council Chamber	"	"	aft.	" 28
3. Arkwright, Methodist Church	"	"	aft.	" 29
4. Port Elgin, Public Library	"	"	aft.	" 30
5. Tiverton, Town Hall	"	"	aft.	" 31
6. Kincardine	Centre Bruce		aft.	June 2
7. Armow, Township Hall	"	"		" 3
8. Bervie, Royal Hotel	"	"	aft.	" 4
9. Ripley, Township Hall	"	"	aft.	" 5
10. Lucknow, Mrs. John Button's Home	South Bruce		aft.	" 6
11. St. Helens	West Huron			" 9
12. Dungannon	"	"		" 10
13. St. Augustine, Hall	"	"	aft.	" 11
14. Wingham, Council Chamber	"	"		" 12
15. Blyth, Milne's Hall	"	"		" 13
16. Londesboro, Foresters' Hall	"	"	aft.	" 14
17. Clinton	"	"	aft.	" 16
18. Holmesville, Mrs. Mulholland's Home	"	"	aft.	" 17
19. Goderich	"	"	aft.	" 18
20. Belgrave	East Huron			" 19
21. Bluevale	"	"		" 20
22. Jamestown. Victoria Hall	"	"	aft.	" 21
23. Brussels, Carnegie Library	"	"	aft.	" 23
24. Walton, A. O. U. W. Hall	"	"	aft.	" 24
25. Molesworth, Orange Hall	"	"	aft.	" 25
26. Fordwich, Mrs. J. Davidson's Hall	"	"	aft.	" 26
27. Gorrie, Mrs. Jas. Armstrong's Home	"	"	aft.	" 27
28. Belmore, Private Residence	South Bruce		aft.	" 28
29. Teeswater, Town Hall	"	"		" 30
30. Walkerton, Private Residence	"	"	aft.	July 2
31. Paisley, Town Hall	Centre Bruce		aft.	" 3
32. Williscroft, Baptist Church	"	"	aft.	" 4
33. Chesley, Dr. Biehn's Hall	"	"	aft.	" 5
34. Kintail, Lakeview Park	West Huron			" 6

DIVISION 11.—Mrs. W. J. Hunter, Pleasant.

1. Clarksburg, The Grove	Centre Grey		aft.	May 26
Mrs. Crossland's Home	"	"	eve.	" 26
2. Heathcote	"	"		" 27
3. Rocklyn	"	"		" 28
4. Kimberley, Union Hall	"	"		" 29
5. Vandeleur	"	"		" 30
6. Eugenia, School House	"	"	aft.	" 31
Methodist Church	"	"	eve.	" 31
7. Maxwell, Methodist Church	"	"		June 2
8. Badjeros, School House	"	"		" 3
9. Dundalk, Town Hall	"	"		" 4
10. Hopeville, Mrs. A. H. Burnett's Home	"	"		" 5

11. Priceville	Centre	Grey		June	6
12. Flesherton, High School	"	"		"	7
13. Markdale, Dep. Agric. Office	"	"	aft.	"	9
14. Williamsford, Macabees' Hall	"	"		"	10
15. Holland Centre, Price's Hall	"	"		"	11
16. Keady, School House	North	Grey	eve.	"	12
17. Kilsyth, Township Hall	"	"		"	13
18. Annan, Presbyterian Church	"	"		"	16
19. Bognor, Methodist Church	"	"	aft.	"	17
20. Strathnairn, Church	"	"		"	18
21. Meaford, Town Hall	"	"	aft.	"	19
22. Kemble, Library Hall	"	"	aft.	"	20
23. Brookholm, Mrs. J. Young's Home	"	"	aft.	"	21
24. Chatsworth, Foresters' Hall	"	"	eve.	"	23
25. Shallow Lake, Noble's Hall	"	"	aft.	"	24
26. Clavering, School House	"	"	aft.	"	25
27. Parkhead, Mrs. S. Walker's Home	North	Bruce	aft.	"	26
28. Hepworth, Spring Creek School	"	"	aft.	"	27
29. Wiarton, Town Hall	"	"	aft.	"	28
30. Mar, Mrs. A. Crane's Home	"	"		"	30
31. Colpoy's Bay, Bell's Hall	"	"		July	2
32. Hope Bay, School House	"	"	aft.	"	3
33. Lion's Head, Township Hall	"	"	aft.	"	4

DIVISION 12.—Mrs. F. W. Watts, Toronto.

1. Orangeville, Meth. Ch. Lecture Room	Dufferin	aft.	May	27
2. Blount, Mitchell's Church	"		"	28
3. Mono Centre, Hall	"	eve.	"	29
4. Camilla	"		"	30
5. Whittington, Mrs. L. C. Groskurth's Home	"	aft.	"	31
6. Laurel, Methodist Church	"		June	2
7. Bowling Green, Mrs. W. Durkin's Home	"	aft.	"	3
8. Corbetten, Presbyterian Church	"		"	4
9. Shelburne, Town Hall	"		"	5
10. Horning's Mills, Methodist Church	"		"	6
11. Honeywood Methodist Church	"	aft.	"	7
12. Whitfield, Orange Hall	"	eve.	"	9
13. Violet Hill, Orange Hall	"		"	10
14. Rosemount	West	Simcoe aft.	"	11
15. Everett, Orange Hall	"	" aft.	"	12
16. Avening, School House	"	"	"	13
17. Creemore, May's Hall	"	" aft.	"	14
18. Duntroon, Brack's Parlor	"	" aft.	"	16
19. Singhampton, Hamilton's Hall	"	" aft.	"	17
20. Batteau, The Cottage	"	" aft.	"	18
21. Stayner, Town Hall	"	" aft.	"	19
22. Sunnidale Corners, Wiggins' Hall	"	" aft.	"	20
23. Stroud, Church	South	Simcoe aft.	"	21
24. Churchill, Mrs. R. Boyes' Home	"	" aft.	"	23
25. Coulson's Hill, English Church	"	" aft.	"	24
26. Auld Kirk, Scotch Line	"	" aft.	"	25
27. Newton Robinson	"	"	"	26
28. Thornton, Temperance Hall	"	"	"	27
29. Ivy, Orange Hall	"	" aft.	"	28

DIVISION 13.—Mrs. M. N. Norman, Toronto.

1. Zephyr, Methodist S.S. Room	North	Ontario aft.	May	27
2. Sandford, I.O.O.F. Hall	"	" aft.	"	28
3. Uxbridge	"	"	"	29
4. Sunderland, Town Hall	"	" aft.	"	30
5. Beaverton, Town Hall	"	" aft.	"	31
6. Gamebridge, S.O.S. Hall	"	" aft.	June	2
7. Brechin	"	" aft.	"	3
8. O'Connell, Mrs. Shield's Home	"	" aft.	"	4

9. Orillia, Public Library	East Simcoe			June	5
10. Washago	"	"	aft.	"	6
11. Ardtrea, Private Residence	"	"	aft.	"	7
12. Uhthoff	"	"	aft.	"	9
13. Warminster, McKinley's Hall	"	"	aft.	"	10
14. Waubaushene, Public Library	"	"	aft.	"	11
15. Victoria Harbour	"	"	aft.	"	12
16. Elliott's Corners, School No. 17	Centre Simcoe			"	13
17. Penetanguishene, Carnegie Library	"	"	aft.	"	14
18. Wyebridge, Public Hall	"	"	aft.	"	13
19. Wyevale, Orange Hall	"	"	aft.	"	17
20. Elmvale, Lance Hall	"	"		"	18
21. Silver Maple, Thos. Cavanagh's	"	"	aft.	"	19
22. Crossland, Knox Hall	"	"		"	20
23. Phelpston, Shanahan's Hall	"	"		"	21
24. New Flos, Mrs. Thos. Young's Home	"	"		"	23
25. Edenvale, Hall	"	"		"	24
26. Minesing, Methodist Church	"	"		"	25
27. Anten Mills, School	"	"		"	26
28. Dalston, Mrs. J. Baldwin's Home	"	"	eve.	"	27
29. Mitchell Square, Private Residence	East Simcoe		aft.	"	28
30. Guthrie, Private Residence	"	"	aft.	"	30
31. Shanty Bay, Temperance Hall	"	"	aft.	July	2
32. Crown Hill, Private Residence	"	"	aft.	"	3

DIVISION 14.—Dr. Jennie Smillie, Toronto.
R. L. Moorehouse, Cairo, June 16 to 27.

1. Gravenhurst, Gull Lake Pines	South Muskoka			May	27
2. Reay, Presbyterian Church	"	"	eve.	"	28
3. Germania, German School House	"	"	eve.	"	29
4. Muskoka Falls, School House	"	"		"	30
5. Bracebridge, Town Hall	"	"		"	31
6. South Macaulay, Mrs. Alex. Barron's	"	"	aft.	June	2
7. Baysville, Town Hall	"	"	aft.	"	3
8. Monck, Miss R. Holden's Home	"	"	aft.	"	4
9. Bardsville, Mrs. H. L. Goltz's Home	"	"		"	5
10. Port Carling, Town Hall	"	"	eve.	"	10
11. Windermere, Mrs. F. Forge's Home	"	"		"	11
12. Ufford, School House	Centre Muskoka			"	12
13. Port Sydney, Lakeview House	"	"	aft.	"	13
14. Allanville, Union Hall	"	"	aft.	"	14
15. Silverdale, Mrs. Mawhenery's Home	North Muskoka		eve.	"	16
16. Aspdin, Clifton Hall	"	"		"	17
17. Ashworth, Township Hall	"	"	aft.	"	18
18. Ravenscliff, Mrs. E. W. Tipper's Home	"	"	aft.	"	19
19. Huntsville, Court House	"	"		"	20
20. Hillside, School House	"	"		"	21
21. Dwight, Church	"	"		"	23
22. Birkendale	"	"		"	24
23. Fox Point	"	"		"	25
24. Dorset, Town Hall	"	"		"	26
25. Brunel, No. 5, School House	"	"		"	27

DIVISION 15.—Miss W. Harvey, Toronto, May 28 to 30.
Mrs. N. H. Altenburg, Toronto, May 28 to June 30.

1. Laskay, Temperance Hall	North York		aft.	May	28
2. King	"	"	aft.	"	29
3. Schomberg, Baptist Church	"	"	aft.	"	30
4. Kettleby, Mrs. J. T. Elliott's Home	"	"		June	2
5. Aurora	"	"	aft.	"	3
6. Newmarket, Mrs. Wm. Walker's Home	"	"		"	4
7. Queensville, Presbyterian Church	"	"	aft.	"	5
8. Keswick, Mrs. Wm. Mahoney's Home	"	"	aft.	"	6
9. Mount Albert, Methodist Church	"	"	aft.	"	9
10. Pine Orchard	"	"	aft.	"	10
11. Vandorf	"	"	aft.	"	11
12. Victoria Square, Mrs. Tepper's Home	East York		aft.	"	12
13. Richmond Hill, Hall	"	"	aft.	"	13

14. Thornhill, Miss O. D. Bala's Home	East York		aft.	June	16
15. East Toronto, Snell's Hall	"	"	aft.	"	17
16. Scarboro Jct., Bent's Hall	"	"	aft.	"	18
17. Highland Creek, Mrs. W. H. Knowle's	"	"	eve.	"	19
18. Agincourt, Hall	"	"	aft.	"	23
19. Box Grove	"	"	aft.	"	24
20. Markham, Town Hall	"	"	aft.	"	25
21. Unionville	"	"	aft.	"	26
22. Stouffville, Council Chamber	"	"	aft.	"	27
23. Goodwood, Town Hall	North Ontario		aft.	"	28
24. Altona	"	"	aft.	"	30

Division 15 (*a*).—Mrs. J. Phillips, Toronto.

1. Claremont, Mason's Hall	South Ontario		aft.	June	9
2. Kinsale, Mrs. H. McBurn's Home	"	"	aft.	"	10
3. Brougham, Mrs. B. Burk's Home	"	"	aft.	"	11
4. Whitevale	"	"	aft.	"	12
5. Pickering, Private Residence	"	"		"	13
6. Columbus	"	"	aft.	"	16
7. Shirley, Private Residence	"	"	aft.	"	17
8. Brooklin	"	"	aft.	"	18
9. Whitby	"	"	aft.	"	19

Division 16.—Dr. Annie Backus, Aylmer, May 27 to June 2.
Miss J. M. Preston, Napanee, June 2 to 27.
Miss W. Harvey, Toronto, June 3 to 6.

1. Port Hope, Dept. Agr. Office	East Durham			May	27
2. Charlecote, S.S. Hall, Moorish	"	"	aft.	"	28
3. Elizabethville, S.S. Room	"	"		"	29
4. Garden Hill, Temperance Hall	"	"	aft.	"	30
5. Bewdley, Church	"	"		"	31
6. Bailieboro, English Church S.S.	"	"	aft.	June	2
7. Millbrook, Town Hall	"	"	aft. or eve.	"	3
8. Manvers. Orange Hall	"	"	aft.	"	4
9. Pontypool	"	"	eve.	"	4
10. Fairmount, S.S. Room	"	"	aft.	"	5
11. North Monaghan, Hall	"	"	eve.	"	5
12. Mount Pleasant, Temperance Hall	"	"		"	6
13. Cobourg, King George Theatre	West Northumberland		aft.	"	7
14. Elmview, Bissell's School	"	"	aft.	"	9
15. Coldsprings, Town Hall	"	"	aft.	"	10
16. Harwood, Hall	"	"	eve.	"	11
17. Fenella, Hall	"	"		"	12
18. Roseneath, Town Hall	"	"	aft.	"	13
19. Centreton, Miss E. Holland's Home	"	"	aft.	"	14
20. Grafton, Town Hall	"	"	eve.	"	16
21. Baltimore, Chapman's Hall	"	"	aft.	"	17
22. Castleton, Town Hall	East Northumberland		aft.	"	18
23. Brighton, Town Hall	"	"	aft.	"	19
24. Dundonald, Town Hall	"	"	eve.	"	20
25. Smithfield, Methodist Church	"	"	aft.	"	21
26. Wooler, Methodist Church	"	"	aft.	"	23
27. Codrington, Orange Hall	"	"	aft.	"	24
28. Warkworth, Town Hall	"	"		"	25
29. West Seymour, Private Residence	"	"		"	26
30. Menie, Mrs. Lamb's Home	"	"		"	27

Division 17.—Mrs. M. McQueen, Manilla, May 27 to June 2.
Miss E. Chapman, Campbellville, May 27 to July 2.

1. Newtonville, Meth. S.S. Room	West Durham		aft.	May	27
2. Kendall	"	"	aft.	"	28
Starkville, School House	"	"	eve.	"	28
3. Orono, Society Hall	"	"	aft.	"	29
4. Bowmanville, Council Room	"	"	aft.	"	30
5. Solina, S. of T. Hall	"	"	aft.	"	31
6. Nestleton, Foresters' Hall	"	"	aft.	June	2

7. Sonya, Private Residence	West Victoria		aft.	June 3
8. Manilla, Meth. S.S. Room	"	"	aft.	" 4
9. Woodville, Town Hall	"	"	aft.	" 5
10. Lorneville, Plank's Hall	"	"	aft.	" 6
11. Little Britain, Private Residence	"	"	aft.	" 7
12. Oakwood, Town Hall	"	"	aft.	" 9
13. Lindsay, Mrs. John Caren's Home	"	"	aft.	" 10
14. West Ops, Mrs. E. H. Hopkin's Home	"	"	aft.	" 11
15. Linden Valley	"	"	aft.	" 12
16. Cambray, Mrs. Wm. Fier's Home	"	"	aft.	" 13
17. Islay, Mrs. Wm. Wilson's Home	"	"	eve.	" 14
18. Cameron, Methodist Church	East Victoria			" 16
19. Pleasant Valley, Private Residence	"	"	aft.	" 17
20. Fenelon Falls, Dickson's Hall	"	"	aft.	" 18
21. Bobcaygeon, Parish Hall	"	"	aft.	" 19
22. Coboconk, I.O.O.F. Hall	"	"		" 20
23. Burnt River, Orange Hall	"	"	aft.	" 21
24. Kinmount, Town Hall	"	"	aft.	" 23
25. Gelert, Scott's Hall	Haliburton		aft.	" 24
26. Minden, Town Hall	"		aft.	" 25
27. Haliburton, Town Hall	"		aft.	" 26
28. Omemee, Mrs. G. Balfour's Home	East Victoria		aft.	" 27
29. Norwood, Agricultural Office	East Peterboro		aft.	" 28
30. Warsaw, Town Hall	"	"	aft.	" 30
31. Mt. Julian, School House	North Peterboro		aft.	July 2

Division 18.—Mrs. M. L. Woelard, Toronto.

1. Consecon	Prince Edward			May 27
2. Wellington, Methodist Church S.S. Room	"	"	aft.	" 28
3. Bloomfield, Methodist Church S.S. Room	"	"	aft.	" 29
4. East and West Lake, Disciple Church	"	"	aft.	" 30
5. Cherry Valley, Private House	"	"	aft.	" 31
6. Milford, Town Hall	"	"	aft.	June 2
7. Picton	"	"	aft.	" 3
8. Gilbert's Mills, Mrs. W. R. Munro's Home	"	"	aft.	" 4
9. Mountain View, Union Church	"	"		" 5
10. Rednersville, Redner's Hall	"	"		" 6
11. Quinte, Private Residence	East Hastings		aft.	" 9
12. Melrose, Town Hall	"	"		" 10
13. Bethany, Private Residence	"	"		" 11
14. Foxboro	"	"	aft.	" 12
15. Plainfield, Mrs. J. Rollin's Home	"	"		" 13
16. Phillipston	"	"		" 14
17. Halston, Private Residence	"	"		" 16
18. Roslin, Women's Inst. Hall	"	"		" 17
19. Thomasburg, Private Residence	"	"		" 18
20. Tweed, Town Hall	"	"		" 19
21. Ivanhoe, Private Residence	North Hastings		aft.	" 20
22. Madoc	"	"	aft.	" 21
23. Queensboro	"	"	aft.	" 23
24. Marmora, Masonic Hall	"	"	aft.	" 24
25. Springbrook, Foresters' Hall	"	"		" 25
26. Wellman's Corners, Orange Hall	"	"	aft.	" 26
27. Stirling, Town Hall	"	"	eve.	" 27
28. River Valley, School House	West Hastings		aft.	" 28
29. Chatterton, Marsh Hill School	"	"	aft.	" 30
30. Belleville, High School	East Hastings		eve.	July 2
31. Sydney, 3rd Con., Mrs. Jas. McPherson's	West Hastings		aft.	" 3
32. Frankford, Orange Hall	"	"	aft.	" 4
33. Deltor, Egan Creek School	North Hastings		eve.	" 5
34. Bancroft, Town Hall	"	"		" 7
35. Maynooth	"	"		" 8
36. Coe Hill	"	"		" 9
37. Clydesdale, School House	North Peterboro		aft.	" 10

Division 19.—Miss E. E. Smillie, Toronto.

1. Adolphustown, Town Hall	Lennox	aft.	June	9
2. Conway, A. O. U. W. Hall	"	aft.	"	10
3. Stella, Town Hall	Amherst Island	aft.	"	11
4. Collin's Bay	Frontenac		"	12
5. Westbrooke, Hall	"		"	13
6. Inverary, Agricultural Hall	"	eve.	"	14
7. Lansdowne, Town Hall	South Leeds	aft.	"	16
8. Athens, Town Hall	Brockville	aft.	"	17
9. Delta, Town Hall	South Leeds	aft.	"	18
10. Newboro, Court House	" "	aft.	"	19
11. Westport, Wesley Hall	" "		"	20
12. Elgin, Town Hall	" "		"	21
13. Seeley's Bay	" "	aft.	"	23
14. Maynard,	South Grenville		"	24
15. Brouseville, School House	" "	eve.	"	25
16. Shanley, Workmans' Hall	" "	eve.	"	26
17. Burritt's Rapids, Victoria Hall	" "	aft.	"	27
18. Merrickville, Girl's Guild Hall	N. Leeds and Grenville	aft.	"	28
19. Eldorado	N. Hastings	aft.	"	30

Division 20.—Miss L. Reynolds, Solina.

1. Drummond Centre	South Lanark		June	5
2. Innisville	" "		"	6
3. Balderson's Corners	" "		"	7
4. Maberly, Hall	" "	eve.	"	9
5. Elphin, Public Hall	North Lanark	eve.	"	10
6. Poland, Church	" "		"	11
7. Watson's Corners, Temperance Hall	" "		"	12
8. Lanark, Council Chamber	" "	aft.	"	13
9. Carleton Place, Council Chamber	South Lanark	aft.	"	16
10. Almonte, Council Chamber	North Lanark	eve.	"	17
11. Clayton, Forester's Hall	" "	eve.	"	18
12. Burnstown, Temperance Hall	South Renfrew		"	19
13. Calabogie, Town Hall	" "	eve.	"	20
14. Bromley, Evergreen Hall	North Renfrew		"	21
15. Shields, School House	" "		"	23
16. Stafford, Public Hall	" "		"	24

Division 21.—Miss M. McKenzie, Toronto.

1. Iroquois, Town Hall	Dundas		June	9
2. Morrisburg, Town Hall	"	aft.	"	10
3. Williamsburg, Temperance Hall	"	aft.	"	11
4. Winchester Springs, Orange Hall	"	aft.	"	12
5. Morewood	"	eve.	"	13
6. Chesterville, Town Hall	"	aft.	"	14
7. Finch, Private Residence	Stormont	aft.	"	16
8. Cornwall Centre, Township Hall	"	eve.	"	17
9. Avonmore	"		"	18
10. Martintown, St. Andrew's Hall	Glengarry	aft.	"	19
11. Maxville, Public Hall	"	aft.	"	20
12. Vankleek Hill, Town Hall	Prescott	aft.	"	21
13. Vernon, Orange Hall	Russell		"	23
14. Kars, Workman's Hall	Carleton	eve.	"	24
15. Manotick, Harmony Hall	"		"	25
16. Stittsville, Private Residence	"	aft.	"	26
17. Ashton	"		"	27
18. Carp, Town Hall	"		"	28
19. Kinburn, Orange Hall	"	eve.	"	30
20. Antrim, Town Hall	"	eve.	July	2
21. Galetta, Russell's Hall	"		"	3

Division 22.—Mrs. H. W. Parsons, Forest.

Grose, Henry, Lefroy.—Mr. Grose is the owner of a first-class farm in Simcoe County, and has been eminently successful in general farming. He has the happy faculty of presenting hard facts in a pleasing manner, and his address to boys on the farm is very instructive and uplifting. Mr. Grose has attended Institute meetings for seven seasons with acceptance, and his services should be of special value in the northern sections, where he has done considerable Institute work.

Subjects:—

"How to Increase and Maintain the Fertility of the Soil."
"Selection of Seed."
"Home Dairy Work."
"The Growing of Clover."

Evening.
"Benefits of Institute Work."
"The Canadian Boy and Girl."

1. Powassan	East Parry Sound	May	27
2. Hotham	" " "	"	28
3. Restoule	" " "	"	29
4. Arnstein	" " "	"	30
5. Loring	" " "	"	31
6. Golden Valley	" " "	June	2
7. Granite Hill	" " "	"	3
8. Barrett's Settlement	" " "	"	4
9. Trout Creek	" " "	"	5
10. South River	" " "	"	6
11. Midford	" " "	"	7
12. Mecunoma	" " "	"	9
13. Sundridge	" " "	"	10
14. Burk's Falls	" " "	"	11
15. Magnetawan	" " "	"	12
16. Midlothian	" " "	"	13
17. Doe Lake	" " "	"	14
18. Elmsdale	" " "	"	16
19. North Cobalt	Temiscamingue	"	18
20. Haileybury, Buche Township	"	"	19
21. New Liskeard	"	"	20
22. Milberta	"	"	21
23. Chester's Corners	"	"	23
24. Hillview	"	"	24
25. Uno Park	"	"	25
26. Hanbury	"	"	26
27. Thornloe	"	"	27
28. Earlton	"	"	28
29. Hilliardton	"	"	30
30. Heaslip	"	July	2
31. Englehart	"	"	3
32. Charlton	"	"	4
33. Marter	"	"	5
34. Matheson	"	"	7
35. Monteith	"	"	8

Division 23.—Miss R. R. Honsberger, Vineland.

Murphy, Robt., Alliston.—Mr. Murphy is one of the most successful and best known among the farmers and stockmen of Simcoe County. He has also taken a leading part in the public affairs of his county working up to the Wardenship, and has had considerable experience in Institute work.

Subjects:—

"Soil Cultivation and Drainage."
"Losses and Gain as the Result of Seed Selection."
"Dual Purpose Cattle."
"Live Stock Improvement."
"Alfalfa Growing."

Evening.

"Shall our Boys and Girls remain on the Farm?"
"The Choice of Occupation."

1. Mattawa	East Nipissing		June	3
2. Brule, School House	" "		"	4
3. Eau Claire	" "		"	5
4. Feronia	" "		"	6
5. Sturgeon Falls	" "		"	7
6. Warren	" "		"	9
7. Tarrentorus	Centre Algoma		"	11
8. Goulais Bay	" "		"	12
9. East Korah	" "		"	13
10. Prince	" "		"	14
11. Base Line	" "		"	16
12. Echo Bay	North Shore Algoma		"	17
13. Bar River	" " "		"	18
14. Laird	" " "		"	19
15. McLennan	" " "		"	20
16. Desbarats	" " "		"	21
17. McClarty	" " "		"	23
18. Johnson's School House	East Algoma		"	24
19. Bruce Mines	" "		"	25
20. Cloudslee	" "		"	26
21. Alma Heights	" "		"	27
22. Little Rapids	" "		"	28
23. Livingstone Creek	" "		"	30
24. Sowerby	" "		July	2
25. Iron Bridge	" "		"	3
26. Wallford	" "		"	5
27. Massey	" "		"	7
28. Webbwood	" "		"	8
29. Lee Valley	" "		"	9

Division 24.—Miss J. C. Smith, Powassan.

Shearer, W. C., Bright.—Dairying is the particular department of farming in which Mr. Shearer has been eminently successful. He has kept records of the feed consumed by the hogs produced, and will be able to give information of much value regarding the feeding of swine. He is thoroughly practical, a good speaker, an Institute man of experience for some years past, and a most acceptable delegate.

Subjects:—

"Improvement of the Dairy Herd."
"Cultivation of the Soil and Selection of Seed."
"Breeding and Feeding the Bacon Hog."
"Production and Care of Milk."
"Tile Underdrainage."
"Interesting the Boys in the Farm."

1. Little Current	East Manitoulin	aft.	May 28
2. Ten Mile Point	" "	aft.	" 29
3. Sheguindah	" "	eve.	" 29
4. Green Bay	" "		" 30
5. Budges	" "		" 31

6. Clover Valley	East Manitoulin		eve.	June 2
7. Tehkummah	"	"	"	" 3
8. South Baymouth	"	"	"	" 4
9. Sandfield	"	"	"	" 5
10. Silver Bay (Big Lake)	"	"	"	" 6
11. Mindemoya	"	"	"	" 7
12. Carnarvon	"	"	"	" 9
13. Grimesthorpe	West Manitoulin		"	" 10
14. Billings	"	"	"	" 11
15. Kagawong Village	"	"	"	" 12
16. Ice Lake	"	"	"	" 13
17. Long Bay	West Manitoulin		"	June 11
18. Poplar	"	"	"	" 16
19. Barrie Island	"	"	"	" 17
20. Gordon's	"	"	"	" 18
21. Elizabeth Bay	"	"	"	" 19
22. Silver Water	"	"	"	" 20
23. Marksville, Town Hall	St. Joseph Island		"	" 24
24. Milford Haven, Stone School House	"	"	"	" 25
25. Carterton	"	"	"	" 26
26. Kentvale	"	"	"	" 27
27 Richard's Landing	"	"	"	" 28
28 Tenby Bay, School House No. 4	"	"	"	" 30

Division 25.—Miss S. Campbell, Brampton.

Campbell, A. M., Maxville.—Mr. Campbell is a successful dairyman and general farmer. His practical grasp of the subjects announced, and the clear and forceful manner in which he imparts information, render him a valuable man in Institute work.

Subjects:—

"The Breeding of Dairy Cattle."
"Care and Feeding of the Dairy Cow."
"Cultivation of Corn and the Silo."
"Farm Management."

Evening.

"The Bright Side of Farm Life."

1. Dorion	Thunder Bay		June	3
2. Ouimet	"	"	"	4
3. Port Arthur	"	"	"	5
4. Fort William	"	"	"	6
5. Murillo	"	"	"	7
6. Conmee	"	"	"	9
7. O'Connor	"	"	"	10
8. Hymers	"	"	"	11
9. South Gillies	"	"	"	12
10. Slate River	"	"	"	13
11. Barclay	Kenora		"	16
12. Dryden	"		"	17
13. Minnitaki	"		"	18
14. Oxdrift	"		"	19
15. Eagle River	"		"	20
16. Kenora	"		"	23
17. Sleeman	Rainy River		"	26
18. Stratton	"	"	"	27
19. Shenston	"	"	"	28
20. BaBrwick	"	"	"	30
21. Emo	"	"	July	2
22 Barnhart	"	"	"	3
23. Big Fork	"	"	"	4
24. Devlin	"	"	"	5
25. Burries	"	"	"	7

Women's Institute Lecturers and their Subjects, 1913

ALLAN, MISS MARGARET A., Jarvis.—Since graduation in Household Science at Alma College, Miss Allan has taken an active part in the work of her home Institute at Jarvis, and has had some experience in regular Institute work.

Subjects:—

"Home Nursing."
"Laundry Work."
"Household Sanitation."
"Hygiene."

ALTENBURG, MRS. N. H., c-o Department of Agriculture, Toronto.—Mrs. Altenburg received her early education in High and private schools in Ontario, and subsequently taught Domestic Art in New York State. This was followed by a private school she conducted successfully for several years. Mrs. Altenburg has given a systematic course of Demonstration-Lectures in Sewing in two sections of the Province. She has designed a system of drafting for dressmaking. She is most efficient, practical and thorough in her methods, and the large number of unsolicited complimentary letters would indicate that Mrs. Altenburg's services are highly appreciated by the Institutes.

Subjects:—

"Talks on various lines of Sewing," with demonstrations.

BACKUS, DR. ANNIE, Aylmer.—Dr. Backus brings her medical training and practice, as well as her experience in country life, and places them at the disposal of the women of the Province. She is eminently practical, ready and willing to help womankind. She has been closely identified with Institute work throughout the Province for a number of years. Dr. Backus will illustrate her lectures on "Physical Development of the Child" and "Poultry Raising" at the evening sessions by the use of stereopticon views.

Subjects:—

"Hygiene of the Home and Aids in Nursing."
"Consumption and Its Prevention."
"The Importance and Meaning of Woman's Work."
"Training in the Home.'
"Education of Girls."
"Physical and Mental Harm of Fault-Finding."
"Medical Inspection of Schools."
"Poultry Raising."—Illustrated.
"The Physical Development of the Child."—Illustrated.

BRETHOUR, MRS. J. E., Burford.—Mrs. Brethour is a most progressive and successful Institute officer, and has also given assistance to many of the Institutes surrounding Brant. She will be remembered as one who has taken part in our Annual Convention. Her advice and suggestions regarding Institute work will be found helpful. Her addresses are animated, interesting and instructive, and are specially helpful to those who are responsible as officers of the Institutes. Mrs. Brethour will be able to attend only a few meetings this season.

Subjects:—

"Simple Entertaining in the Country."
"Homely Wrinkles for Housekeepers."
"Is a Woman's Time Worth Anything?"
"The Evolution of the Country Woman."
"How to Make an Institute a Success."
"Books: Our Friends or Enemies?"

CHAPMAN, MISS E. M., Campbellville.—Miss Chapman went from a farm home to teach school, and subsequently took a course in Domestic Science at MacDonald Institute, Guelph. After graduating she took charge of systematic instruction in food values and cooking with a group of Institutes in Middlesex and Lambton Counties. Her services were most acceptable and the Department is fortunate in being able to secure her to attend the summer series of meetings.

Subjects:—

"What We Owe to the Children."
"Nursing at Home."
"The Eradication of Household Pests."
"The Girl on the Farm—Her Possibilities and Needs."
"The Way to a Man's Heart."

CAMPBELL, MISS SUSIE, Brampton.—Miss Campbell is an Institute worker of considerable experience who always leaves her audiences enthusiastic in pursuing definite lines of work. She is untiring in her faithful efforts to leave with her hearers noble thoughts and sentiments in keeping with her tastes and surroundings. Miss Campbell is an ex-teacher and has judged dairy products, needle work, and fine art at many of our fall fairs. Her success in extending the Women's Institutes throughout Peel County has been most marked, and she has done much to stimulate branches in many parts of the Province to better work.

Subjects:—

"The Ideal Home."
"Individual Life of a Young Woman."
"The Influence of Women and Men."
"The Judicious Housekeeper and Homemaker."
"Home and School."
"Child and Parent."
"Our National Assets."
"Eugenics."
"The Mother's Everyday Problems."
"The Educated Farmer and his Possibilities."
"Imprints of Institute Work."

COUTTS, MISS ANNA J., Thamesville.—Miss Coutts is an undergraduate of Toronto University with experience in office work. Both Miss Coutts and her mother have been active in Institute work in East Kent. The accomplishments in the local organization have enthused Miss Coutts with the great possibilities in Institute work.

Subjects:—

"Women and Business."
"Our Moral Responsibilities."
"Waste."
"Poetry."
"How to Make the Institute of the Greatest Value."

DAWSON, MRS. W., London East.—Mrs. Dawson is a poultry woman of international reputation, and both the farmers' wives and townspeople would be much benefited by her practical talks along the lines indicated in the following subjects:

Subjects:—

"The Care and Feeding of Laying Hens."
"The Raising of Early Chicks."
"The Requirements of the Egg Market."

DAWSON, MRS. W., Parkhill.—Mrs. Dawson is an enthusiastic supporter of the Women's Institutes. She has done much to place the Parkhill Institute in the front rank of progressive societies. She was president of the local organization for years, and has given the work prominence through the local press. With her liberal education, wide reading and close study of present day conditions in the home, she is in a position to make the subjects announced of great interest and practical value.

Subjects:—

"Beyond the Hills of Home."
"The Farmer's Wife and Her Problems."
"The Women we Meet in the Institutes."
"What our Friends Never Know."
"The Hand that Rocks the Cradle" (Problems for Mothers).
"Easily made Garments for Women and Children."—Illustrated.
"Building Character, Brain and Muscle for the Child."

Ferguson, Mrs. W. B., Strathroy.—Scientific training in Domestic Science and Dairying, practical experience on the farm, and her ability to present information in a pleasing, forceful manner insures effective work on the part of Mrs. Ferguson. She has had a wide experience in lecturing, teaching, and local organization work.

Subjects:—

"The Conveniences and Labor Saving Devices we may have in our Homes."
"Health a Duty."
"The Place our Institute may fill in our Lives."
"The Power and Value of the Ideal in our Lives."
"What a Home Science Training Means to a Girl."

Gilholm, Miss B., Bright.—Miss Gilholm has been an efficient officer of the District Women's Institute of North Oxford, and is able to render much assistance to officers of both district and branch Institutes. Miss Gilholm has taken the regular creamery course at the Guelph Dairy School and holds a specialist's certificate in buttermaking, as well as a diploma in the theory and art of buttermaking. Miss Gilholm's knowledge and appreciation of country life enables her to impart information in a manner much appreciated by the members in general.

Subjects:—

"The Plant and its Relation to the Dairyman."
"Will the Dairy Cow Remove the Mortgage?"
"Thought of Old Friends and New."
"Canadian Women."
"Our Opportunities."

Govenlock, Miss Mabel, Seaforth.—Miss Govenlock is a Domestic Science graduate who has had considerable experience in teaching Domestic Science in both Colleges and Schools. With her experience as an Institute lecturer for several years and her close study of economic and household matters, the Institutes can depend upon interesting and instructive addresses and a profitable discussion of women's work in general.

Subjects:—

"Home Products as Food."
"Labor Saving Devices in the Home."
"Comfort in the Sick Room."
"Harmony in Home Furnishings."
"Efficiency and Stability."
"Prevention and Treatment of Tuberculosis."

Gowsell, Miss Hattie M., 38 Prospect Ave., Port Arthur, Ont.—Miss Gowsell is a teacher of wide experience and has been active in local Institute work in Hastings County, as well as in Port Arthur, where she is engaged as a domestic science teacher.

Subjects:—

"How Can Training Assist in Reducing the High Cost of Living?"
"Economy in the Home."
"The Education of Girls."
"Foods."
"Diet for Young and Old."
"Our Relations to New-Comers."

GREER, MRS. G. H., 7 Elgin Street, Hamilton.—Mrs. Greer's experience and practical housekeeping and office work, together with her close observation and the study of economic and social conditions will enable her to render valuable service to the Institutes.

Subjects:—

"Aims and Objects."
"Stepping Stones to Health."
"Home Nursing."
"The Home as a Nation Builder."
"Canning and Preserving of Fruits."
"Every Day Housekeeping."

GRAY, MISS G., 650 Bathurst Street, Toronto.—Miss Gray needs no introduction to the majority of Institute members in Ontario, as she has visited nearly all sections in which the work has been organized. She has devoted several seasons to Institute work in New York State, is a thorough master of the subjects announced, and presents her information in a clear, forceful and attractive manner. During the past season Miss Gray has conducted most successful Demonstration Lecture courses among groups of Institutes in Northumberland, Lambton and Kent Counties.

Subjects:—

"Diet in Relation to Health."
"Meats—Composition, Cuts and Cooking."
"Home Decoration."—Illustrated.
"Things Worth While."
"Woman's Work in the World."
"The Individual's Value to Society."
"Forces that Make for Success."

GUEST, MISS E. J., Belleville.—Miss Guest has had practical experience in a farm household and is a specialist and M.A. from Toronto University. Miss Guest is in charge of the English Department of the Belleville Collegiate Institute. Her activity in the Parkhill Institute did much to make towards success in that organization, and since going to Belleville her efforts have resulted in the formation of a Mothers' Club Women's Institute in that city. With a broad outlook and deep sympathy, coupled with her common-sense, practical methods, she can be depended upon to have something of special value for the Institute which she may visit. She is especially interested in child welfare.

Subjects:—

"A Square Deal for the Girl on the Farm."
"Money-earning and Money-spending as a Factor in Character Building."
"Helping Our Boys and Girls to Find their Niche in Life."
"The Mother: What she Owes to Herself, the Home and the Community."
"The Unseen Background of Life."

GUEST, DR. EDNA M., 700 Bathurst Street, Toronto.—Dr. Guest, whose childhood days were lived in a rural home, has always had a keen appreciation of conditions in rural districts. Always of a literary turn of mind, she has occupied positions which have given her experience in public speaking. Dr. Guest is now practising in the city of Toronto. She is in thorough sympathy with the work of the Women's Institutes, and we regret that she is able to attend only an occasional meeting this season. Her list of subjects is an indication of the practical information which may be received from her addresses.

Subjects:—

"Laws of Health."
"The Nervous System: Its Construction and Modern Abuse."
"Causation and Prevention of Disease."
"Medical Inspection of Schools."

HARVEY, MISS WINIFRED, Toronto.—Miss Harvey is a 1911 graduate of the University of Toronto, and has for the past two years, been a Fellow in History. Miss Harvey has had considerable experience in public speaking and is a close student of social and economic conditions.

Subjects:—

"How to Educate Our Girls."
"How to Dress Economically and Well."
"Tendencies in the Present Development of Canada."
"How to Build up the Farm Library."
"Social Life in the Country."

HONSBERGER, MISS ROXIE R., Vineland.—After her girlhood experience on the farm, Miss Honsberger took a full course in nursing and has recently been engaged in private nursing. Her experience in public speaking and nursing, coupled with her familiarity with country conditions, will insure acceptable service to the Institute members.

Subjects:—

Afternoon.
"Home Nursing."
"Nursing and Care of Children."
"Life of the Working Girl in the City."

Evening.
"How to be Healthy and Cheerful."
"Emergency Treatment."
"Contagious Diseases."

HOTSON, MISS A. M., Parkhill.—Eight years' experience in kindergarten work has impressed upon her the needs of children and the necessity for common-sense in supplying these needs in their life, both at school and at home. Miss Hotson took her post-graduate work in Chicago, where she lived in Gertrude House, and had the opportunity of seeing the effect of residence life on girls and the value of the Home Makers' and Arts Courses for young women.

Subjects:—

"Institute Committee Work."
"Art in the Community as a Revelation of Character."
(*a*) "The Study of Pictures."
(*b*) "Furnishing a Living Room."
(*c*) "The Hunger for Color."
(*d*) "The Spirit of Literature and Music."
"Child Welfare Problems."—
(*a*) "The Immigrant Child."
(*b*) "The Native Born Child."
(*c*) "Present Day Legislation for Children."
"The Value of Festivals."
"System *vs.* Personality."
"The Education of Women."

HUGHES, MISS D. I., 1111 College Street. Toronto.—Miss Hughes is a graduate in Domestic Science and Domestic Art. Her experience in hospital work and familiarity with both country and city conditions and requirements give her a fund of information much appreciated by the Institute members. Miss Hughes has devoted several months to Demonstration-Lecture courses in Sewing and Cooking to groups of Institutes.

Subjects:—

"Domestic Art, and What it Means to Women."
"Teaching Children to Sew."
"Our Clothes: Their Selection and Making."
"The Profession of Home Making."
"Demonstrations in Bandaging."
"Our Homes."
"The Interests of the Homestead."

HUNTER, MRS. W. J., Pleasant.—Mrs. Hunter is one of our progressive Women's Institute members and has been of great assistance as a district officer in furthering the work in Peel County. She is mistress of a fine country home and has been active in local Institute work, as well as assisting at some of our Annual Conventions and attending meetings in various sections of the Province.

Subjects:—

"The Benefits of Institute Work."
"Common Sense in Housekeeping."
"Training Children in the Home."
"Improvement of Home Conditions."
"Don't Worry."
"Homemakers and Patriots."

LOWE, MRS. J. J., Hespeler.—Mrs. Lowe has been an enthusiastic worker in local Institutes as well as a lecturer for the Agricultural Department in this Province and in Nebraska. Her practical experience and tact insure addresses of value and interest.

Subjects:—

"Beneficial Suggestions to Branch Institutes."
"Worry, Work, Waste."
"Some more Things Women Should Know."
"Listen, Learn and Love."
"What is Worth While."
"Some Advantages of a Country Home."

MACKENZIE, MISS MARY, 25 Dundonald St., Toronto.—Miss MacKenzie is a graduate in Household Science, University of Toronto. Her experience as a public school teacher and familiarity with country conditions and requirements are valuable assets in Institute work. Miss MacKenzie is deeply interested and experienced in Institute matters.

Subjects:—

"How we can Lower the Death-rate of Ontario."
"Household Economics."
"Elements in Home Nursing."—Demonstration in Bandaging.
"The Food Principles.—Methods Involved in their Preparation."
"Why we Need a Consumers' League in Canada."
"The Home and Its Influence."

MACQUEEN, MRS. M., Manilla.—Mrs. MacQueen has taken deep interest in her home Institute at Manilla and has on various occasions addressed the members on topics of general interest. We can assure the Institutes that the subjects announced for Mrs. MacQueen will be treated by her to the advantage and profit of the members.

Subjects:—

"Home and School."
"The Power of Influence."
"Reading in the Home."

MCTURK, MRS. E. B., Lucan.—Mrs. McTurk has had special training in Optics and is a graduate optician. She is well and favorably known as an enthusiastic and efficient worker in local organizations, and several years' experience as a lecturer for the Department has shown her to be a practical and fluent speaker and her work is much appreciated. Her subjects speak for themselves.

Subjects:—

"The Care of the Eyesight."
"Home Care of Sick and Visiting Sick."
"Child Training in the Home."
"What that Other Institute is Doing."
"Sewing and Buttonless Garments."—Demonstrated.
"Keep on the Sunny Side."
"For Home and Country."

Moodie, Miss L. Findlay, 76 Pembroke Street., Toronto.—Miss Moodie is a student in Medicine at the University of Toronto, and before coming to the University took a deep interest in Institute work. She has lived upon the farm and has also had the advantage of teaching school for several years.

Subjects:—

"Home Nursing."
"Tuberculosis: A Preventable and Curable Disease."
"Emergency Treatment."
"Disease: Cause and Prevention."

Murdoch, Miss Mary E., Palmerston.—Miss Murdoch, since graduation in Domestic Science from Macdonald Institute, Guelph, has had experience in hospital work. Her familiarity with country conditions and requirements will enable her to give information to the rural Institutes which will be thoroughly appreciated.

Subjects:—

"Diet in Its Relation to Health."
"Home Economics."
"Some Farm Problems as They Concern Women."
"Bacteriology in the Home."
"Canadian Authors."

Norman. Mrs. M. N., 616 Bloor St. W., Toronto.—Parenthood and racial ethics constitute one of the most vital, fundamental, and, strangely enough, one of the most neglected of all important themes. Mrs. Norman brings to its exposition practical views, clear enunciation, choice English, with chaste diction of unusually happy style. Her personality as a speaker is particularly attractive. Her teaching appeals to the judgment as definite, convincing and final.

Subjects:—

"Child and Parent."
"The Power of Personality."
"The Three 'L's'—Laughter, Love, Life."
"The Individual and the Community."
"The Principles of Home Making."

Parsons, Mrs. Horace W., "Stewartleigh," Forest.—Mrs. Parsons is active in the work of the National Council of Women. Women's Institute work appealed to her and she has devoted much energy and thought in preparing addresses of vital interest to all women. Her wide experience in organization work places her in a position to give valuable advice to the officers of the Institutes.

Subjects:—

Afternoon.
"Home Nursing."
"The Child and the Story."
"Heredity."
"Mental and Physical Development."
"Marriage."
"The Magnetism of Personality."
"Canadian Laws Concerning Women and Children."
"Rural Economics."

Evening.
"Our Inheritance."
"Canadian Writers."
"Women Workers of Our Time."
"Books with a Purpose."

Phillips, Mrs. J. E. Owen, c-o Dept. of Agriculture, Toronto.—Mrs. Owen Phillips, of London, England, has had a wide experience as a lecturer in England, United States and Canada. Mrs. Phillips treats her subjects in a clear, incisive and forceful manner.

Subjects:—

"Education in the Home and the School."
"Co-operation a Means to Reduce the High Cost of Living."
"How to Make a Commonplace Life Interesting."
"Social Service."
"The Making of a Citizen."

POWELL, MISS M. V., Box 453, Whitby.—Miss Powell is deeply interested in everything which pertains to the advancement and education of the present and future nation-builders, and this work appeals very strongly to her. She has already had several years' experience in Institute work, and the logical, pleasing and forceful manner in which Miss Powell presents her elevating and instructive addresses appeals effectively to her audiences.

Subjects:—

"Canada's Possibilities."
"Character Building."
"Our Country's Assets."
"Refinement in the Home."
"A Present Day Need."
"How We can help Our Girls, and How they can help Us."
"Demonstrated Talk on Plain and Fancy Sewing."

PRESTON, MISS JANET M., Napanee.—Miss Preston is a Domestic Science graduate with considerable experience in teaching and public speaking.

Subjects:—

"The House Beautiful."
"Care of Our Bodies."
"Treatment at Home of Common Diseases."
"Sanitation in Daily Life."
"The Woman of To-day."
"Disinfectants—How and When to Disinfect and Its Importance."
"Sewing."—Demonstrations.

REYNOLDS, MISS LULU, Solina.—Miss Reynolds has had extended experience as Secretary of a district Women's Institute, and as a Departmental delegate. Institute officers will find her advice and suggestions bearing upon Institute methods and work of special interest and value. The women on the farm will fully appreciate the services of one who has had practical experience in and made a close study of the everyday duties in the average home.

Subjects:—

"Hints for the Housewife."
"What We Eat."
"To-day and Yesterday."
"The Kitchen Garden."
"Our Institutes."

Evening.
"Character Building."
"The Development of our Nation."

ROBSON, MISS ETHEL, Ilderton.—Miss Robson is a farmer's daughter, and a firm believer in the advantages of country as compared with city life. She is a practical bee-keeper, being Second Vice-President of the O. B. K. A., and is also interested in chickens. Miss Robson has addressed public gatherings with great acceptance, and her services will be much appreciated by the Institute members.

Subjects:—

"Bee-Keeping on the Farm."
"Poultry on the Farm."
"Economic Problems of the Country Girl."
"Literature and Life."

SMILLIE, MISS E. E., 1075 Dovercourt Road, Toronto.—Miss Smillie has had the advantage of a university education and is a graduate of the Toronto General Hospital Training School for Nurses. She has had considerable practical experience in her profession, and, in addition to four seasons' Institute work in this Province, she was last summer engaged in the extension of the Women's Institute movement in New Brunswick.

Subjects:—

"Home Nursing."
"Emergencies, with demonstrations in bandaging."
"Good Health."
"Disease Germs."
"Diet in Illness."
"Canadian Literature and Writers."
"Literature for the Home."

SMILLIE, DR. JENNIE, 1075 Dovercourt Road, Toronto.—Dr. Smillie is a graduate in medicine at the University of Toronto, 1909. She has also taken a post graduate course in Philadelphia, and is now practising medicine in Toronto. Her medical training, together with her experience as a public school teacher in country places, and five seasons' Institute work, fit her to render service which should be much prized by the Institutes.

Subjects:—

"Germs and Their Relation to Disease."
"Prevention and Treatment of Tuberculosis."
"Hints for the Sick Room."
"Bandaging and Changing Bedclothing."—Demonstrated.
"Hygiene and Health in the Home."
"First Aid to the Sick and Injured."
"Infectious Diseases of Childhood."
"The Joy of Living."

SMITH, MISS JEAN CAMERON, Powassan.—Miss Smith, after several years' experience in Public School teaching, took a course in nursing, and subsequently had charge of a Nurses' Training School in Japan; following that she has had several years in private nursing in New York and Northern Ontario. Miss Smith has had considerable experience as a lecturer, and can be depended upon to present the valuable facts gleaned from practical experience and study in a manner which will appeal to and benefit the Institute members.

Subjects:—

"Hygiene."
"Home Nursing."
"The Care of Typhoid Patients."
"Tuberculosis—Its Prevention and Treatment in the Home."
"Medical and Surgical Emergencies."—Demonstrated.
"Choice of Books."
"Patriotism in Our Public Schools."

SPEERS, MISS ADA B., 76 Pembroke Street, Toronto.—Miss Speers is a keen student of rural conditions and is deeply interested in rural affairs. Her early years were spent on a farm, and she has taught school in rural districts for several years, following that by a course in Medicine in Toronto University. She has always been interested and active in various Children's and Young People's Societies.

Subjects:—

"How to Keep Young."
"What's to be Done Before the Doctor Arrives?"
"Consumption—Looked at from Several Standpoints."
"The Parent, the Teacher, the Child as a Harmonious Trio."

STEPHEN, MRS. LAURA ROSE, Huntington, P.Q.—Mrs. Stephen needs no introduction to the Women's Institutes of Ontario. Her ability as a public speaker and her wide knowledge of affairs place her in a position to render the best of service to the Institutes.

Mrs. Stephen has travelled from the Atlantic to the Pacific in connection with Institute and other instruction work along homemaking and dairy lines. Her practical and carefully thought-out addresses, delivered in a pleasing and forceful manner, have placed her in the front rank of Institute workers. Mrs. Stephen is well known as a writer on dairy topics, and has published a book on "Farm Dairying." Mrs. Stephen will be prepared to attend a few meetings in Ontario this season.

Subjects:—

"A Woman's Views on the Dairy Situation."
"Ice Creams, Mousse, Sherbets."—(Demonstrated, if desired.)
"The Influence of Environment."
"House Building and Home Making."
"What I Owe the World."

Watts, Mrs. F. W., 51 Chicora Avenue, Toronto.—Mrs. Watts has had marked success both as an Institute officer and lecturer. She is a forceful, pleasing speaker, whose addresses have been much appreciated. Being a graduate of the American College of Mechano-Therapy, she will be able to give many valuable and helpful health hints.

Subjects:—

Afternoon.
"Would You Be Beautiful?"—Demonstrated.
"Home Treatment in Mechano-Therapy."—Demonstrated.
"A Talk with Mothers and Girls."
"What Are You Doing to Help Your Institute?"

Evening.
"Why Is It?"
"Your Influence in the Home."

Woelard, Mrs. M. L., 420 Bloor Street W., Toronto.—Mrs. Woelard is intensely interested in all matters which pertain to the home, and her addresses have been much appreciated. We can assure Institute officers and members that Mrs. Woelard will have messages of interest and benefit for her audiences.

Subjects:—

"Poultry Keeping for Profit and Pleasure."
"Home Influence."
"Meat Substitutes—Excellent Salads for Hot Days."
"Fruit Canning, Jelly Making and Marmalades."
"Health Culture."
"Plain Sewing and Art Needlework."—Demonstrated.
"Woollen Garments for Women and Children."—Illustrated.

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THIRTEENTH ANNUAL REPORT

OF

The Agricultural Societies
OF ONTARIO

AND OF THE CONVENTION OF THE

Ontario Association of Fairs and Exhibitions

FOR THE YEAR

1913

(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE, TORONTO)

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TORONTO

To His Honour Sir John Morison Gibson, Knight Commander of the Most Distinguished Order of St. Michael and St. George, a Colonel in the Militia of Canada, etc., etc., etc.

Lieutenant-Governor of the Province of Ontario.

May it Please Your Honour:

I have the pleasure to present herewith for consideration of your Honour the Report of the Agricultural Societies of Ontario for the year 1913.

Respectfully yours,

JAS. S. DUFF,

Minister of Agriculture.

Toronto, 1913.

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ANNUAL REPORT

OF THE

Agricultural Societies of Ontario

1913

To the Honourable Jas. S. Duff,

Minister of Agriculture.

Sir,—I herewith transmit the Annual Report of the Agricultural Societies of Ontario for the year 1913. It contains the Financial Statements of the Societies for 1912, prize money paid for different classes of Live Stock and Agricultural Products, Legislative Grants to Spring and Seed Fairs, and Societies in the newer districts, to Stock Societies, and those which made entry in the Standing Field Crop Competitions, and which suffered loss in gate receipts owing to wet weather. A comparative statement of grants for the years 1912 and 1913 is also included.

The Thirteenth Annual Convention of the Ontario Association of Fairs and Exhibitions held in Toronto on February 5th and 6th, 1913, the proceedings of which are herewith given, was the largest and most enthusiastic ever held, being attended by nearly 500 delegates from all parts of the Province.

All of which is respectfully submitted.

Faithfully yours,

J. Lockie Wilson, *Superintendent.*

W. A. Crow, President.

OFFICERS FOR 1913

President..... Dr. W. A. Crow, Chesley.
First Vice-President..... J. C. Stewart, Dalmeny.
Second Vice-President..... Wm. Scarf, Durham.
Secretary..... J. Lockie Wilson, Toronto.
Treasurer..... Alex. McFarlane, Otterville.

Directors.

District 1..... J. A. Fraser, Prescott.
District 2..... G. C. McClean, Brockville.
District 3..... R. H. Ketcheson, Belleville.
District 4..... Geo. Williamson, Beaverton.
District 5..... W. H. Hammell, Beeton.
District 6..... J. E. Peart, Hamilton.
District 7..... Wm. Holmes, Otterville.
District 8..... W. A. McKenzie, Mitchell.
District 9..... J. H. Burnard, Petrolia.
District 10..... John Clancy, Cargill.
District 11..... B. Laycock, Gravenhurst.
District 12..... S. M. Fawcett, Sault Ste. Marie.
T S. Woolings, Englehart.

Auditors.—S. R. Agnew, Meaford, and William Collins, Peterboro.

TREASURER'S REPORT.

Receipts.

By balance as per audit.....	$320 61
Memberships for year	220 00
Bank interest on deposits	9 47
Total	$550 08

Expenditures.

Paid Executive, two meetings..	$58 00
Salaries, Secretary & Treasurer	75 00
President's allowance	25 00
Sick Children's Hospital.....	25 00
Stenographer and Clerk	9 00
Caretaker of hall	5 00
Auditors	10 00
Printing	14 00
Postage	1 39
Sundries	2 75
Total	$225 14
Balance in bank	324 94
	$550 08

THE ONTARIO ASSOCIATION OF FAIRS AND EXHIBITIONS.

The Thirteenth Annual Convention of the Ontario Association of Fairs and Exhibitions was held in the Canadian Foresters' Hall, Toronto, February 5th and 6th, 1913. The Agricultural Societies of the Province were very fully represented, there being nearly five hundred delegates present.

PRESIDENT'S ADDRESS.

Dr. J. U. Simmons, Frankford.

I welcome you to this Thirteenth Annual Convention of the Ontario Association of Fairs and Exhibitions, and congratulate you on the increased attendance at our annual gatherings from year to year, and the unabated enthusiasm that prevails among our members. We meet in this Convention to discuss means pertaining to the welfare of the three hundred and seventy-five Agricultural Societies in this Province. All such topics can be freely discussed, and the conclusions arrived at are usually the ones that are of the most benefit to those engaged in exhibition work. Many of the forward movements of Agriculture in Ontario have had their origin in our Annual Conventions. In this regard, the thanks of our members are due to our Superintendent and Secretary, Mr. J. Lockie Wilson.

The inauguration of the Standing Field Crop Competitions has produced financial benefits to the farmers far beyond our utmost expectations. These competitions are only in their infancy, so to speak, and we look for great results from the future development of this work. The grain exhibits from the Standing Field Crop Competitions at the larger Fairs in this Province have been a surprise and a pleasure not only to the exhibitors, but to the many thousands who visited these Fairs. The large revenues received by the successful competitors from the sale of the pure seed grain has not been the least of the results obtained through this work.

I believe the time is not far distant when the Provincial Government will have a branch established in the form of a bureau where those having pure seed grain to sell will be able to dispose of it through such a bureau with advantage to all concerned. Through the Report on the Standing Field Crop Competitions published by the Department of Agriculture which gives the names of all the prize winners and competitors, those wishing to purchase good seed grain have the opportunity of getting into close touch with the owners thereof.

The Wet Weather Insurance inaugurated recently has resulted in untold financial benefit to Societies which have, unfortunately, met with bad weather conditions during 1912. There are present here to-day, those who in the first instance, opposed this Wet Weather Insurance, but are now in hearty accord with it because the Societies they represent have received much financial benefit therefrom. But for this Wet Weather Insurance the Boards of Directors of many Societies would have been heavily handicapped financially and obliged to borrow money in the banks at a high rate of interest or resort to the other somewhat unfair method of paying only a percentage of their prize list, which gives the

Society using it a rather bad reputation, and, to use the language of the ring, a "black eye." One good feature about this Wet Weather Insurance, and which has been recently arranged, is that the ten thousand dollars do not come out of the regular grant of seventy-five thousand dollars.

The Departmental Judging System is increasing in favor and shows good results.

The Stallion Enrollment Act meets with the approval of the farmers generally, but it does not go far enough. The Act should be amended, making compulsory inspection the rule.

Scarcity of farm labour is proving a great detriment to our progress, and we hope that in 1913 the Dominion and Provincial Governments will make gigantic efforts to fill up this country with the required skilled farm labour from other lands. Railway corporations and land companies are booming the West to such an extent that our young people are being lured away from us to seek conditions in our Western Provinces that are said to be made up of wheat and sunshine, but there is no use blinking the fact that there are many clouds in that western horizon, and drouth and hail and frost and blight creep in and belie many of the statements made by unscrupulous land sharks.

Without an efficient official staff, the Boards of Directors of Agricultural Societies will fail. Usually two or three officers are required to do the work of the whole Board. This is not as it should be. Every man who takes office should do his part to further the best interests of the Society.

In conclusion, I wish to thank you all for the great honor you have conferred in selecting me as your President. I thank you one and all for the assistance you have rendered me during the year, and trust that each will continue his efforts in the work of upbuilding the finest organization in the Dominion of Canada. I thank you, gentlemen.

J. L. Miller: The President's address is too comprehensive to adopt without giving it some consideration. In the first place I want to mention a matter that was brought up at the last Convention and referred to in the address, viz., the Field Crop Competitions. It should be compulsory on the exhibitors in the Field Crop Competitions to at least have 100 bushels of grain to sell. Suppose I wish to buy some seed grain: I write to half a dozen before I find out a man who has seed grain to sell. It should be published in the Report, and then we would all know who has seed grain to sell.

Geo. Downey: I induced our Society to enter the Field Crop Competition. If it had been compulsory when entering that competition and taking prizes to put a quantity of grain on the market, we would not have had the Competition in Bolton. I had hard work getting the required number to start the Competition, but this year, we will have no trouble. In regard to the weeds coming from the West, as the railroads bring these weeds, this Convention should try to get some measure through whereby the railroad companies would be compelled to cut the weeds along the tracks before they are ripe. The Railway Commission should do this.

The President's address was then adopted.

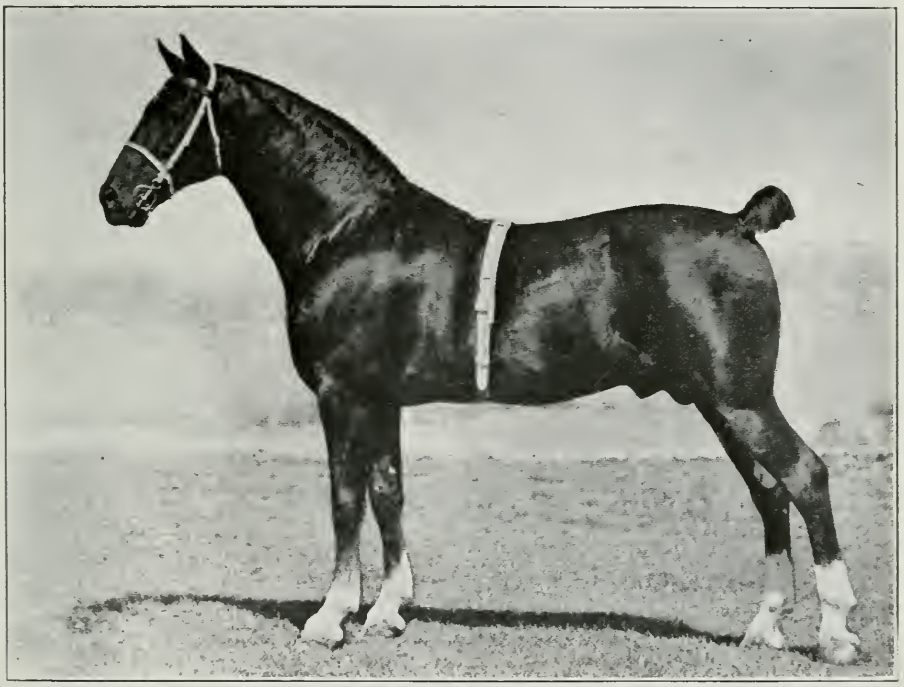
There was a brief discussion on a resolution making the minimum acreage in the Field Crop Competitions for Northern Ontario three acres.

J. Lockie Wilson: Three acres is the minimum acreage for New Ontario, and five for the Old or settled sections. This is the rule, and no one has ever thought of changing it.

REPORT OF SUPERINTENDENT.

J. Lockie Wilson, Toronto.

"Progress" in every line of work engaged in by Directors of Agricultural Societies has been the watchword in the year just closed. The majority of our Fairs and Exhibitions were fortunate in the selection of their dates, and in scores of instances, while it rained before and after, the sun broke out from behind the clouds at the proper time, and fair days cheered the hearts of officers, exhibitors and members.



Prize-winning Hackney.

Wet Weather Insurance.

In 1911 the total appropriation of $10,000 was required to recoup Societies to the extent of 50 per cent. of their losses in gate receipts. The total number of Societies which applied for assistance was one hundred and six, and many of them received the maximum apportionment of $300. This year 53 Societies made application for this insurance, only one receiving the maximum of $300, and the total amount required was $4,155. Some difficulty has arisen in connection with this fund owing to the fact that some Secretaries and Treasurers, instead of keeping actual gate receipts absolutely separate from those derived from grand-stand, concert and booth, have in their returns to me included them all under the one heading of gate receipts. This error on the part of these officers has caused a good deal of trouble in arriving at the correct amount such Societies were entitled to receive. This is a matter which must be guarded against in future.

I have been asked by the officers of some Societies, which unfortunately, had for two years in succession small gate receipts owing to wet weather, to have their claims based on the three years previous to those financially disastrous years. This I was unable to do, as the Act clearly states that the average gate receipts for the three previous years must be the ones to be considered.

Officers of Societies should note carefully the fact that the affidavits making application for wet weather insurance must be in my hands not later than the 15th day of November, the time having been changed from December 31st to the above date at the last session of the Legislature. This was done in order that the year's financial transactions might be closed before the 1st day of January.

When this insurance scheme was first adopted by the Legislature, the $10,000 apportionment was to be deducted from the regular $75,000 grant set aside for Agricultural Societies. At my suggestion, the Minister of Agriculture, with the approval of the other members of the Cabinet, agreed to change this and to make a separate appropriation of $10,000 for wet weather insurance, thus leaving the $75,000 intact, and available as heretofore for the regular grants based on expenditure for agricultural purposes. The amount unexpended in the appropriation for insurance this year will be $5,845. If it were possible to arrange to have this balance made available in addition to the $10,000 appropriation, in the event of a disastrous year later on it would certainly place the Societies in a position to go ahead in confidence with the full knowledge that they would be in a strong financial position no matter what the weather conditions might be on the days on which they held their fairs.

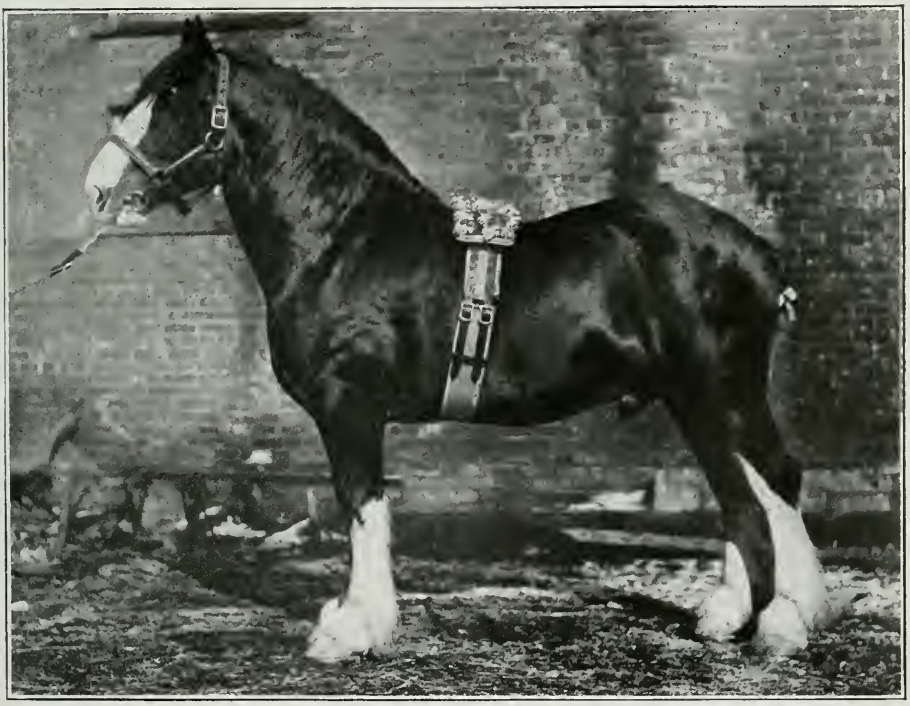
Departmental Judges.

The Departmental System of judges is extending as the years go by, and in 1912 we had a larger number of applications than in any previous year. Including the Standing Field Crop judges, 324 were sent out, 24 more than in any previous year. The actual number of complaints about the work of these judges was eight, a remarkably small percentage, considering the way the work has extended and the number of men employed. I know that our judges have not yet reached the highest standard of efficiency. It has been suggested that this year before the judging commences the Province be divided and a short course for judges be held at a point in the East and one in the West to extend over a period of three or four days. One could be at Guelph and the other at Ottawa. These ought to be held at a time say, between haying and harvest. The best experts in the different lines of work we are engaged in would be placed in charge, and I would recommend that the railway and hotel expenses of the judges attending these courses and a reasonable allowance for time be paid out of the appropriation that is being arranged for by the Dominion Government for educational purposes. By this means the judges would be properly trained so as to be able to arrive at an approximately uniform judgment. In order to encourage the best work, prizes might be awarded to those proving most efficient. During these courses lectures could be given, and great educational benefit would accrue to all concerned.

Field Crop Competitions.

153 Agricultural Societies competed in the Standing Field Crop Competitions in 1912, and notwithstanding the fact that the year was unpropitious, the fields were, on the average, fairly good. Much of the grain, however, was discolored.

but the kernels were well filled out and will, doubtless, prove good seed. There were 3,000 competitors with an acreage of 30,000. The exhibits at the Canadian National and Central Canada Exhibitions and the Guelph and Ottawa Winter Fairs were above the average, and corn and potatoes were especially good. A marked feature of the auction sale was the large number of farmers who purchased seed grain from the winning fields. The samples exhibited were cleaner than in any previous year, and free from noxious weeds. As in other years, the prize winning grain was sent to the Agricultural Specialists to be distributed among the farmers in their localities. Over 500 bushels of prize winning grain have already been distributed to the Agricultural Representatives, the Experimental Farms and the Agricultural College at Guelph. It has been stated by those



Clydesdale.

competent to know that the Standing Field Crop Competitions are the best line of work engaged in by Agricultural Societies.

The first 170 Societies which make application in 1913 will be those allowed to enter, and the first five prize winners will be eligible to compete at the Canadian National and Central Canada Exhibitions, the Guelph and Ottawa Winter Fairs, and, possibly, the Western Fair as well.

In order that the best results may be obtained, the Directors of a Society should try and arrange to have those entering the Competitions sow their grain not longer apart than a week. By doing this they will facilitate the work of the judge and give him an opportunity of judging all the crops at about the same stage of maturity. It will be easily seen that if the grain is sown at stages several weeks apart, the late sown grain will be absolutely green when others are ready to harvest.

Last year several entries were made by competitors in two Societies. This is absolutely contrary to the rules. In the entry form to be sent out this year, a clause will be inserted "I declare that I have not made entry in any other Society." Complaint has been made to me by competitors in one Society that the total amount of $75 was not awarded in prize money by this Society. This is a breach of faith on the part of the Directors, and should not be committed again. The $50 Legislative grant is put up on condition that the Society adds $25 to this. The only deduction a Society can make from this amount of $75 is the membership fee of $1, and, if thought advisable, an entrance fee to the competition, such fee to be fixed by the Directors.

Complaint was also made that exhibitors and officers of Societies drove round with a judge while he was doing his work. This, too, is against the regulations, and the proper procedure for the judge is to hire a livery and driver to visit the fields, and in this way his work would be absolutely above suspicion.

The gambler and the thimble-rigger still haunt our Fairs and Exhibitions, and the innocence of some of our Directors with regard to these crooks is marvellous. We sent out from the Department detectives to some fifty Fairs in this Province in 1912. Thirty arrests were made, fines amounting to nearly $500 were imposed and the gambling devices confiscated and destroyed. Some of these trick machines cost upwards of $50. Great difficulty is experienced in getting convictions, and a number of these men were let off on suspended sentence, which means that they are allowed to continue their nefarious work. If Directors of Exhibitions cannot prosecute their work without the paltry fees paid in by these gamblers, they should promptly go out of business. Section 32, Sub-Sections (2), (3), (4), (6) are as follows:

"(2) The officers of the Society shall prevent all immoral or indecent shows, and all kinds of gambling and all games of chance, including wheels of fortune, dice games, pools, coin tables, draw lotteries, or other illegal games at the place of holding the exhibition or fair, or within 300 yards thereof, and any association or society permitting the same shall forfeit all claims to any legislative grant during the year next ensuing."

"(3) The officers of a society shall not allow any person to exhibit, either publicly or to any individual, any gambling device or to bring any such gambling device into the buildings or upon the grounds in or upon which the exhibition or fair is being held."

"(4) No person shall carry on, or assist, or aid in carrying on, any kind of gambling or any game of chance, at any agricultural, live stock or industrial exhibition or fair; or within half a mile thereof."

"(6) Any person violating the provisions of this section shall incur a penalty of not less than $20, or more than $100, recoverable under the Ontario Summary Convictions Act."

The term "any person" in sub-section (6) includes the officers and directors of the Societies. I am doing everything in my power to prevent these illegal practices and do not desire to cancel the grant to any Society. Will you blame me if several Societies forfeit their grants next year in consequence of serious breaches of the Act? This I am exceedingly anxious to avoid and ample notice has now been given.

Do the Directors of Agricultural Societies realize that the comfort of visitors is an important factor in getting large gate receipts? If you agree with me, then borrow or buy a few thousand feet of plank and place three tiers of seats round your judging rings, and a few here and there on different parts of your grounds and tired mothers and aged fathers will rise up and bless you.

We have endeavored to encourage Bee Demonstrations, and through the good offices of Prof. Morley Pettit, a number of fairs had an educational apiary exhibit, which attracted large crowds and proved of interest.

Another feature which I think would be an attractive one would be to procure a number of stone boats heavily loaded with stone for the testing of heavy draught teams.

There is a marked improvement in the composition of Boards of Directors in recent years. There are always men in every community who are willing and anxious to get into office for the honor of it, but are not prepared to do any work. There is no room for such men in any of our organizations, and wherever these are located they should be marked and promptly disposed of when the election of officers takes place.

In some sections of the Province the Fair Boards allow school children free into the grounds when accompanied by their teachers. No better method could be adopted to get the children interested in fairs and exhibitions. Children's exhibits should also be encouraged in every possible way and substantial prizes offered for same. Prizes might be awarded to children for the best singing of national choruses.

The wet seasons of 1911 and 1912 have emphasized the necessity of having the grounds and roadways properly drained. The beautifying of the premises by perennial flower beds would be an attractive addition. In counties where Agricultural Specialists are located, portions of the grounds should be utilized by them for growing experimental plots of grain, roots and other agricultural and horticultural products.

One of the most important features of an exhibition is to have everything run smoothly and on time, and there should be a large bulletin board at the entrance gate giving the hours at which the judging in the various classes would begin. When that is done, see to it that these events are started promptly on time, and a Director should be in charge of each class whose work it should be to see that the department in his charge is properly conducted. A large tin megaphone should be part of each Society's equipment.

In a great many cases grain is known to have been exhibited from year to year. I would recommend that larger prizes be offered for these exhibits, and that the prize grain be retained by the Agricultural Society to be distributed among the members, who could be asked to sow it and return an equal quantity the next fall. This, I think, is the only way that these exhibits two or three years old can be done away with.

I congratulate you on the large attendance and increased interest at your Annual Conventions, and have to thank you one and all for the assistance given in making our Fairs and Exhibitions a greater success and of more educational value as the years roll on.

V. Crane: We used to employ Departmental Judges and gave them up. Have any other Societies done likewise?

J. Lockie Wilson: There is nothing compulsory about your getting Departmental Judges. Some Societies appoint their own, but it is better to have judges from a distance than those who live alongside the exhibitors.

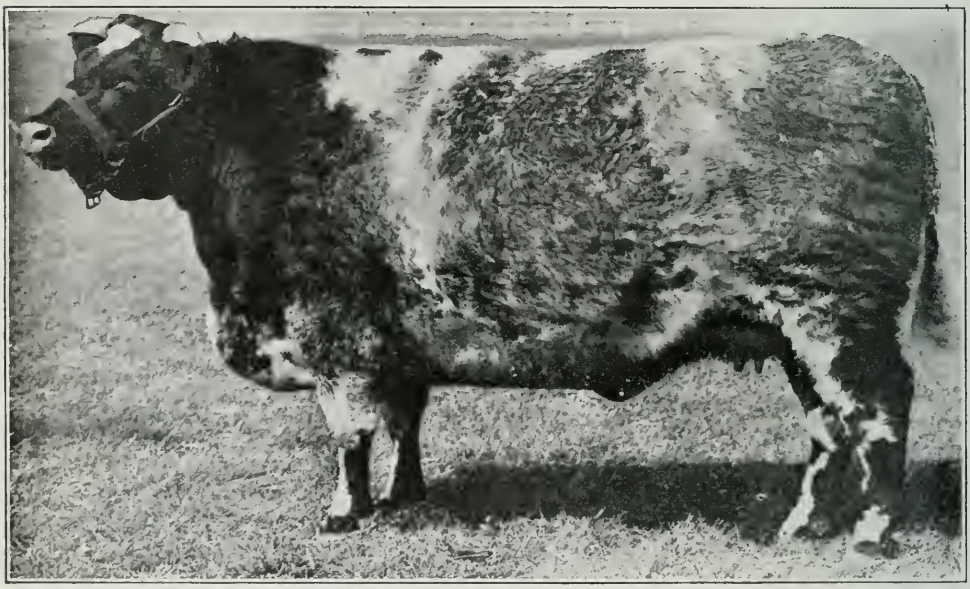
J. L. Miller: When a man enters in the Field Crop Competitions with five acres of oats and wins a prize, why should he not be compelled to sell at least 50 bushels.

J. Lockie Wilson: Hundreds of bushels have been sold all over this Province. I can give you the name of one farmer in Bobcaygeon who sold a carload of 200 bushels of oats to go out of this country. The Bulletin printed by the Department gives the names of every man who has entered the Competitions.

Wm. Hickson: I have been in touch with these competitions since the inauguration. If any one wants to find out where good seed oats can be got, all he has to do is to drop a card to the Secretary. We have a seed fair every year, and I get a number of enquiries as to where seed oats can be purchased. I wrote to those enquiring and told them that they could get what they wanted for $1.50 a bushel and the reply came: "Send on your oats."

Moved by W. West, seconded by J. McKee, that the report of the Superintendent as presented be adopted. Carried.

J. Wigle: The Superintendent's address is very instructive. I entirely agree with him as regards the midway. The unfortunate part of it is that large



Prize-winning Short Horn Heifer.

cities like Toronto seem to glory in this sort of thing. Small fairs are following along the same lines. The more we cut that out the better for our fairs. He suggests that local features be introduced in order to encourage attendance and increase interest. This is an excellent idea. In the public schools in the Province they are introducing training of boys as cadets. This is a splendid idea. This year we introduced a competition with Boy Scouts. When you get the children interested, the parents follow, and the mothers, fathers, brothers, sisters, uncles and aunts; in fact everyone is interested in the upbuilding of our young boys and girls in the Province of Ontario.

I wish to make a suggestion. In our Society each Director is going to take a township and we intend offering a trophy for the township that will put up the best agricultural exhibit at our Fair. I am going to take the township I was born in and get in touch with the Municipal Clerk; we will exhibit half bushels of grain, potatoes, corn, etc. The trophy will be given to the township to be kept

by it until next year; it will be on exhibition and everyone will know that that township won first prize at our exhibition. Get each township interested in this way. We are going to try that this year and I make the suggestion here for the information of other societies. I heartily concur in what you have done in sending us Departmental Judges. We feel we have men who are qualified and there is not the prejudice that there is when a local man is selected.

The Field Crop Competitions are doing great good. Seedsmen hunt the competitors and the best seed is being put on the market. With regard to attractions, I am in favor of the farmers' trotting race. We call it "Trials of Speed." This encourages the breeding of good farmers' horses.

R. E. PALMER: In connection with a township exhibit, the suggestion was made at our annual meeting this year that we offer prizes for Township Exhibits next year and thus get each township interested. The farmers in each section think their township is the best. We expect there will be enough rivalry to cause them to come out and put up the best exhibit they can.

In connection with the schools, last year we endeavored to get them interested. We did not accomplish what we set out to do. We offered prizes for the best lot containing both flowers and vegetables. The School Board have promised to put forth a more determined effort this year to get the children interested in agriculture by growing small crop of vegetables and flowers that will be judged at our Fall Fairs. A lecturer will be sent to lecture on flowers and vegetables to them.

J. B. GOULD: Will any expert judges be sent out this year besides those who have attended a college course?

J. LOCKIE WILSON: I cannot say at present as I do not know how many will be required. All things being equal, the judges attending the short courses in Guelph and Ottawa will get the preference.

H. FOREMAN: I very much appreciate the Secretary's Report. There were very many good points in it which we can carry home and consider for the improvement of our Association.

Regarding the amount paid for wet weather insurance, the amount in 1911 was, practically, $10,000, and in 1912, $4,000. That does not actually represent what would have been paid under general circumstances. I would cite an instance. Our gate receipts in 1910 were $1,700. In 1911 we had three days of very wet weather reducing our gate receipts to $900. In 1912 our gate receipts had come up to a little over $1,200. We had 3½ days of wet weather, and when I looked at the Act and took the average of the three previous years, we had no claim to make. At the same time we were $500 under our ordinary receipts. This is a case where the Insurance plan does not help a Society which had suffered during the three years previous.

J. LOCKIE WILSON: The Act is clear. It says that the basis shall be 50 per cent. of the loss on the average gate receipts for the three previous years. I cannot take 1900 or any other year, but have to abide by the Act. The basis of the Act as it stands now is as nearly fair as possible to all concerned.

REPORTS OF DISTRICT DIRECTORS.

District No. 2.

R. J. Bushell, Kingston: District No. 2 comprises Lanark, Leeds and Renfrew, in which there are thirty-five Societies which hold exhibitions. It is impossible for a man engaged in other work to visit every one of them as they are all held in the month of September. In order to get in touch with each one, I issued a circular and distributed it to the Secretaries in my constituencies. Among the recommendations I made were: revision of prize lists; taking part in the Field Crop Competitions; having a Bee Demonstration at Fairs; the employment of Departmental Judges; the use of a better ticket system at gates, etc.

I called attention to the dates of Fairs in this circular above mentioned. In each District there should be a meeting of delegates from the Societies held a month previous to this Convention to form plans for the Convention.

I am in favor of special judges, but we do not get full value out of them. After the awards have been made in the live stock classes, the judges should give their reasons for the same.

We should get together a class of boys and go with each judge, and he could award prizes to the boys on their decisions. We tried that at our Association, but we had only poor success. It cost them nothing to enter and we gave them suitable prizes. We think, however, we are on the right line.

Some of our Fairs have splendid gardens on the grounds. Another good idea of advertising the fair is to get out picture post cards giving pictures of a good cow, horse, etc., and scatter these throughout the district. On all note paper and envelopes the names of the fairs and dates are printed. These are small moves but important.

Where we had trials of speed we found the fairs a success. We do not allow high kickers, wheels of fortune, or any of these things. We are a little differently situated from other Fairs. We are near Kingston, and with the co-operation we get we are able to put on a little better fair than some of our neighbors under more adverse circumstances. We revise our prize list in March.

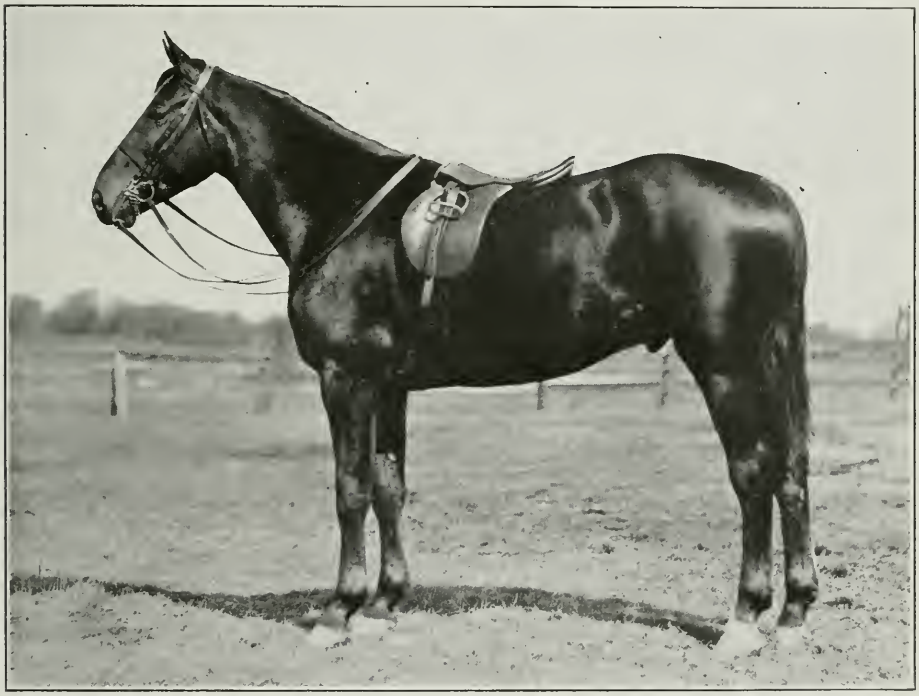
District No. 3.

Arthur McFarlane, Shannonville: I am representative for District No. 3 which includes Hastings, Lennox and Addington, Northumberland and Prince Edward. In this district there are 27 societies. Being a farmer I could not attend all of them. I corresponded with the Secretaries of those which I could not attend and received information from them. Owing to the wet weather prevailing during the period in which the fairs were held, there was a falling off both in the quality and quantity of exhibits, and in financial results. About 50 per cent. suffered indirectly or directly owing to the wet weather. Notwithstanding, about 84 per cent. of our fairs were able to pay off their prize list without any discount.

I notice enthusiasm displayed and an apparent effort to co-operate with the Department in securing expert judges, and 87 per cent. of our fairs employed them this past year, and, from what I could learn from observation, in every case the men sent out were well qualified to do their duties.

In many of the fairs, there seems to be a desire on the part of the Board of Management to cater to the amusement of the public rather than to the educational advantages that should be derived from a well regulated exhibition. With that in view, there were musical entertainments before the grand stand which were much appreciated. Trials of speed seem to be most in favor at all fairs. About 80 per cent. of the Fairs had some forms of trials of speed, and 80 per cent. of the Boards of Management think they are a success. I will not express any opinion on them, however. We should be very careful and bring to the front the educational advantages and place the attractions as a secondary consideration.

I noticed a certain amount of co-operation between Fair and Public School Boards. It is very easy to get exhibits from public schools. In the matter of sketching, drawing maps, selection of flowers, collection of weeds, etc., etc., it



Hunter Class.

creates interest, and that is what we want. In many cases the township put up a fruit exhibit. There was an exhibition given of the packing and sorting of fruit. A very good display of bees was given at some of the fairs.

In District No. 3 we have the Central Fairs Association, an organized body which meets once a year, arranges fair dates, and discusses other local matters. We co-operate with the Department, and in that Association there have been discussed matters which have come up at this morning's meeting and through this forwarded to the Department of Legislature. I beg to submit to this meeting, to be taken up at the proper time this motion:

Moved by F. Mallory, seconded by C. H. Curtis, that the Province of Ontario be divided into three Associations, with distinct lines, for the purpose of arranging dates for fall fairs, and that some penalty be suggested for Fall Fair

Associations which will not become affiliated with such divisional associations and accept dates arranged at such organized meetings, and that a copy of this resolution be submitted to the Provincial Association. Carried.

It was also moved by T. H. Tweedle, seconded by Dr. Wing: "That the Provincial Association be asked to arrange with the different Railroads for reduced rates for delegates attending the Western, Central and Eastern Fair Associations." Carried.

Passed at the meeting of the Central Fairs Association at Napanee, January 31st, 1913, G. A. Hay, Secretary.

I move that this be discussed at the proper time.

District No. 4.

J. H. Garbutt, Peterborough: On being elected Director of District No. 4, I addressed a letter to all the Secretaries in the District regarding dates of Fall Fairs, and found that a large portion of Fair Boards had already chosen their dates or had a stated time for their Fair, which they did not desire to change

The different fairs in the district have been arranging their dates so as not to conflict with each other in order to allow exhibitors to reach as many fairs as possible.

Among the new features at some fairs in 1912 were milking contests, which created considerable interest and brought out good competition.

Another feature was the Rural School exhibit held under the District Representative of the Department of Agriculture, the exhibit being held in the exhibition grounds during the time of the fair. This created a great interest, not only among the children but also the parents and others, and great benefit will result by the education of the younger generation in their efforts to produce the best produce for exhibition purposes.

After visiting a number of fairs in the District last year, I could see a decided improvement in the prize list in the way of an increased grant for agricultural purposes, and less money spent for special attractions and I think there is a growing feeling along that line.

The very wet season of 1912 was a great drawback to a number of fairs and one or two were cancelled altogether, and had it not been for the insurance provided for that purpose, a number of fairs would have become bankrupt.

District No. 7.

Wm. Holmes, Otterville: The Field Crop Competition is something that is here to stay. I do not think there is anything in connection with the different agricultural societies in our District that is giving more satisfaction than this competition. I can only say to those of you who have not tried them, that the quicker you get them the better.

We have not had in our district judging competitions by young men. This is something that would be of great value to the different agricultural societies if each society would take it up and offer liberal prizes, say four or five, to young farmers who are members of the agricultural society. We should try to get the young men interested in the work of judging, as we have not a sufficient number of competent judges. I am in favor of the younger judges, as they have given better satisfaction.

The Secretaries are not all doing their duty if there have been only eight complaints made to Mr. Wilson. So far as my judgment is concerned, and the judgment of many others, there have been some judges who were not competent to fill the position.

Our competitions among public school children for collections of fruit, grain, etc., have been a success. At some of the shows prizes were given for the 1st, 2nd, 3rd best collections of grain, vegetables, etc. This is a good education for the children. Farmers should be more interested in the Agricultural Societies, and the better way is to start when young.

In connection with trials of speed, many societies have this, others do not because they think it is against the law and they cannot have it. It does not seem fair for one society to cut them out and another to have them. It would be better to have the trials of speed than to have roadsters judged the way they are. Quite a number of societies have ¼ or ½ mile rings; they send these road horses around and the first one in gets first prize. For my part I would sooner see trials of speed than road horses judged in that way.

District No. 8.

D. A. Graham, Lobo: The second meeting of District No. 8 was held in the County Buildings, London, Feb. 1st, 1912. This meeting was largely attended, the forty societies in the district having been notified to send one representative from each Fair Board. The classes which I recommended societies to add to their prize list caused considerable discussion. Our Superintendent was present and strongly recommended societies to go into the Standing Field Crop Competition, as he believed it would do more good than any other line they are engaged in. He also made other suggestions which when carried out by the societies will be of benefit to their fairs.

In district No. 8 there are four counties, in which are forty-one societies. It is impossible for a director to visit all of these fairs, as it is a very busy season of the year and a great many of them are held on the same day. However, I was able to attend nine of these fairs, and found them all doing very good work, and the directors apparently well satisfied with the results of their labors; but I feel there is still room for improvement. The success of any agricultural society depends almost entirely on the directors who are elected on the fair board.

I believe that if some of the directors were as anxious to promote the welfare of their society as they are to wear the badge the day of the fair they would add considerably to the prosperity of their society. Some feel that the greatest responsibility that rests on their shoulders is to see that the badge is pinned on the outside of their coat early the morning of the fair. It is a great mistake to have such men on your fair board.

To show what directors can do, I am going to mention one fair in my district which is held at Melbourne. This society started three years ago. They bought twelve acres of land, built a first-class race track, and now have everything up-to-date and paid for. In 1910 their first year, they paid out $350 in prizes; in 1911 they paid out $385.80 in prizes; in 1912 they paid out $445.25; total for the three years $1,181.05, and all the help they got during the three years was a Government Grant of $100 in 1912.

Of the nine fairs I visited I must say that Melbourne has the banner fair, the reason is that they are the most active and up-to-date directors I have ever met, each one doing the best he can to make their fair the banner one of the Province. We should all do likewise.

There are two classes I would recommend societies adding to their prize lists: 1st, offer three prizes to boys under 18 years of age who can exhibit a horse or colt to the best advantage; 2nd, a class from which all exhibits and exhibitors that had ever won a prize at any agricultural fair would be debarred. This would bring new blood into your show ring and help to make the society more prosperous in the future.

In front of Grand Stand, C. N. E.

District No. 9.

JNO. DEWHURST, South Woodslee:

There are some twenty-five fairs in this district; also three stock-owning societies. In my opinion these stock-owning societies do more good than the average small fair. All of these stock societies are in the County of Essex. I have been associated with one of these, known as the South Woodslee Agricultural Society, for thirty years, during which time we had several small fairs, and, after the experience obtained by association with both the fairs and the agricultural societies, it was decided to discontinue holding fairs.

The Agricultural Society has been the chief means of improving stock in the township of Maidstone, Rochester, and part of Gosfield North, the membership being about 350, and there are 21 divisions of the members, owning 21 pure-bred bulls and 17 pure-bred boars.

It will require $1,120 to buy pure-bred stock this year to replace animals whose time of service has expired. The fairs were a success in this district, all being largely attended, and, with only a few exceptions, had favorable weather. Corn harvesting and tobacco cutting at or during the season of the fairs, together with scarcity of farm help, more or less affected the attendance.

It was impossible for me to attend all the fairs held in the district, though I visited several. The Essex County Fair was a marked success, both as to the quantity and quality of the exhibits, as well as financially. It is conducted as a purely agricultural show, and the very full measure of success attained is attributable to the management committees securing numerous exhibits of grain, fruits, vegetables, live stock, and poultry, and to a department of exhibits devoted to ladies' plain and fancy work of art.

Expert judges have been secured, and, with only rare exceptions, have been satisfactory. More of the societies have gone into the Standing Field Crop Competition, specializing chiefly in corn, and have been the means of producing qualities of seed corn not equalled anywhere in Ontario.

District No. 19.

GEO. BINNIE, Bunessan:

This district is composed of Bruce and Grey, in which there are 36 agricultural societies, 20 of them being in Grey. This is the largest number of societies in any county in the Province of Ontario.

I visited as many as possible of the fairs during the time of the exhibition, and also met the chief officers of some of the others at different times during the year and conferred with them on various things in connection with the show.

The societies in Grey generally are in a flourishing condition. Some of them, chiefly those in the largest centres, are the most difficult to keep up. Those which were called "Riding Shows" held in the chief centres of the county are less successful than those in smaller places. One of the reasons is that in those larger centres the societies are expected to put up more expensive special attractions, and expenses, generally, are greater than in smaller societies. In the smaller fairs, it seems to be the determination of every member to make them a success, and thus more interest is taken.

With reference to the directors, it is a fact that in almost all the societies the great majority of the directors simply look upon their position an an honorary one. They do nothing until Fair Day and then do as little as possible.

Most of the societies in our district had successful exhibitions, but a few of them, especially those in the south of Grey, suffered heavy losses owing to wet weather conditions. We have had five years of wet weather; one year the exhibitions were a complete failure, and in two others almost so. Five years of partial failure hit us pretty hard. Last year we got a small amount from wet weather insurance.

Last spring I endeavored to get some of the officers of the societies together in order to arrange dates for fairs and to join together in getting out advertising

literature, but failed. As a matter of fact, the dates of the fairs were all fixed before that time, and they are all fixed now for the present year. All our societies fix their dates at the annual meeting, and most of them keep the same dates in the same month, year after year. As soon as our date is set we send word out to all societies that would clash with ours.

With reference to the Standing Field Crop Competitions most of our societies have gone into it, and our society made 22 entries. I saw all the fields and they were a credit to the exhibitors and the society to which they belonged.

If any compulsion is put upon competitors to sell a quantity of grain for seed, it is going to cut off competition altogether. There are many who would sell their grain, but they are not going to be compelled to do so. Up in our district we find it very difficult to get pure seed grain, and to keep it clean after we get it. We try to get it as pure as possible. If we could get directors who would take an active interest in their society and work from one year's end to another, it would make a very different result. There are some secretaries, too, who are not qualified for the position. They lag behind and only get busy at show time.

District No. 11.

J. Laycock, Gravenhurst: I attended five or six shows in my district, and found them all in a flourishing condition. Some were the best conducted shows I ever attended. All they need in that thinly populated district is a little extra money, and they will do the rest. The exhibit in roots and vegetables would be hard to beat in any section. The first and third prizes at Guelph Winter Fair were won by exhibitors from my district, also the Dominion prize at Ottawa for best bag of potatoes. Departmental judges were employed by most of the societies and gave good satisfaction, as a rule.

District No. 12.

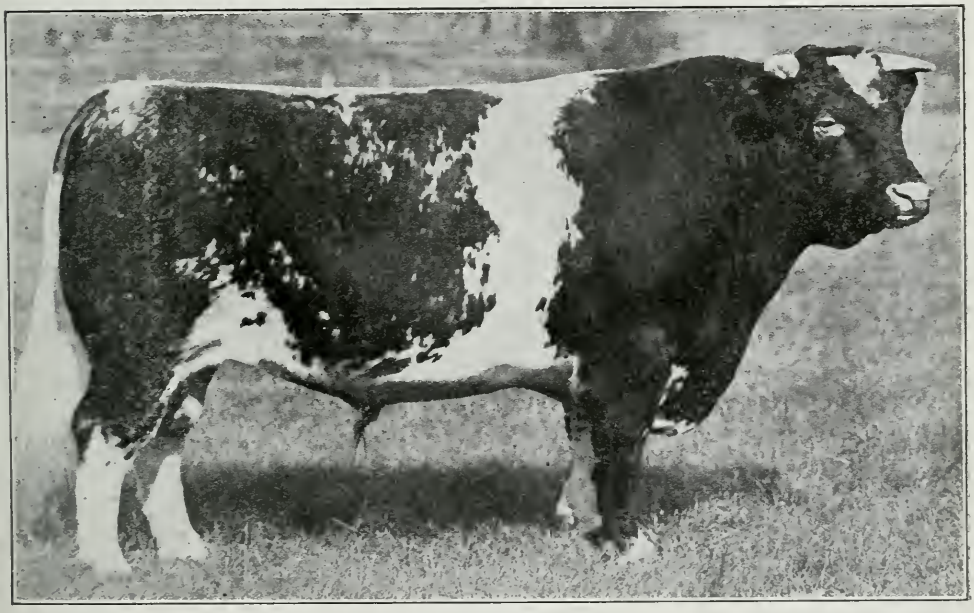
E. F. Stephenson, New Liskeard: This district is larger in extent of territory than the other eleven combined, and in it are upwards of thirty agricultural societies. I am a resident of the newest part, Temiskaming, known as the great Clay Belt region. I have not been able to visit other sections of the immense territory assigned to me. I can speak with authority for Temiskaming, because I have been in close touch with its agricultural interests for the past twenty years. The year 1912 marked a new era in agricultural development in the district as a whole, and particularly in regard to the three agricultural societies, as each built commodious fair buildings during the year. The oldest established agricultural society is that of New Liskeard, where a 40 x 100 foot two-storey building was erected. In Englehart and Charlton splendid buildings were also erected. Much interest is manifested in our agricultural fairs in this new land, because people are most anxious to ascertain about the agricultural and horticultural capabilities of the country. When a man leaves older parts and settles in Temiskaming, or anywhere in the Great Northland, the agricultural fair has a new meaning to him. He goes to see it for its educational worth.

WHY EVERY AGRICULTURAL SOCIETY SHOULD BECOME AFFILIATED WITH THE CENTRAL ASSOCIATION.

William Scarf, Durham.

One of the most convincing arguments in favor of the Fairs Association is the increasing attendance at our annual meetings. One thing that must strike everyone who has attended these meetings is the open-hearted and generous way in which the larger shows have treated the smaller ones. They seem to realize that the success of the larger shows depends greatly on that of the smaller. Now, a few of these societies are willing to take all they can get and stand aloof and do nothing.

The officers and members of the Ontario Association of Fairs and Exhibitions are doing their best in every possible way to further the interests, financially



Short Horn.

and otherwise, of every agricultural society in the Province, as is evidenced by the largely increased legislative grants running up into the thousands for every department of the work in which we are engaged, and in which every society in the Province participates. Notwithstanding all that this Association has done and is doing (and every society in the Province is possessed of all the facts and has benefited financially to a large extent by the work of the Central Association), one half of the Boards of Directors of the Societies have not had the common decency, after being repeatedly requested to join the Association, to pay the paltry affiliation fee of $1 for the whole society, which would mean less than a cent apiece per member for many of these societies which absolutely refuse to help themselves. It is not necessary that all the societies which join the association should go to the expense of sending delegates to the Convention, but the least they could do, as stated before, is to show their good will by affiliating. Those which fail to do their duty in this regard are not a help but a hindrance to us.

Now, if we do nothing else than meet here and talk over show matters with one another, we stregthen ourselves, and prove to our never tiring superintendent that we appreciate the work that he is doing for us.

This Association has also accomplished a great deal in strengthening the hands of the Government and encouraging them to supply societies which make application for them with competent judges who have been well recommended, and who are strangers to the members of the society at whose exhibition they act as judges. If these judges are not satisfactory they should be reported promptly to the superintendent, and, as is always done, incompetent judges will be struck off the list.

The plan of wet weather insurance arranged for by our superintendent met with the hearty approval and endorsation of this Association.

Through the action of the Association there has been a change in the method of distributing the grant, which is now on an evener and fairer basis; the division into county and township societies has now been done away with, and each society receives its grant on the basis of its average expenditure for agricultural purposes for the three previous years instead of its being based on membership as formerly.

The annual report of this Association is sent to the officers and many of the members of the agricultural societies. These splendid reports have done more to further the best interests of our societies than any other work undertaken by the Government. Societies which accept these reports and do not affiliate with the Central Association are accepting our work without paying their share of it. I trust that in future there will not be one society in this Province that does not waken up to the fact that they are doing an injustice to themselves and all concerned by standing aloof and not becoming part of us. Probably the most important work that has been taken up by the Association is the Field Crop Competitions, which are increasing to such an extent that in a very few years every society in the Province will have taken advantage of it.

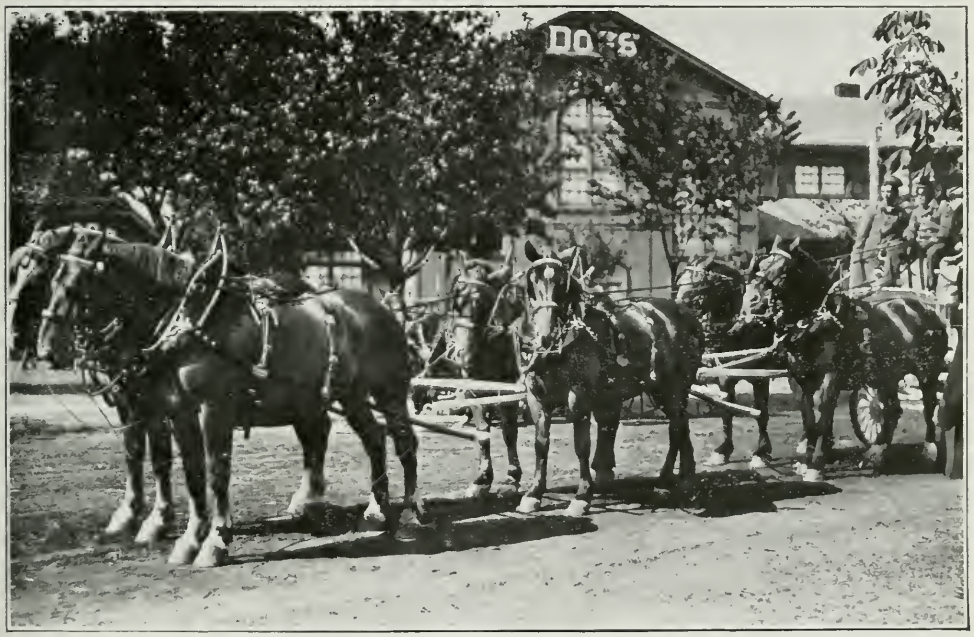
Then, again, the Province was divided into districts, each district getting a director. All sections of the Province have gained by this system. I had the honour of being the first director of a district, and we were then getting less than $500 per year from the county in municipal grants. We thoroughly organized, and met the County Council in a body, and without much trouble they increased that grant to $1,500, dividing it on a flat rate, a number of the societies getting over $50 per year more than they had been receiving. The societies in our county believe in the Association.

This Association twice waited upon the Government and asked that the grant be increased to $100,000, and each time we got an increase, but yet we are $25,000 short of the amount asked for. What do you think was the reason we did not get all we asked for? If we had gone there properly organized and thoroughly representative of all the societies, accompanied with every member of Parliament, we would have had no difficulty in securing all we asked, because we represent 75 per cent. of the population of this Province. Why, British Columbia, with only one quarter of the population we have, and with only 42 societies, got a grant in 1911 of $78,500, and, through a similar organization to ours, it was increased in 1912 to $100,000. Railway Corporations, too, recognize the work of our Association and have given single fare rates to our Convention, regardless of the number in attendance, and the smaller fairs get single fare rates within a radius of 50 miles, good for three days, which means increased attendance and better transportation facilities. A hearty vote of thanks was tendered Mr. Scarf for his address.

REVISION OF PRIZE LISTS FOR FRUIT AT FAIRS AND EXHIBITIONS.

Prof. Crow, O.A.C., Guelph.

I believe those here who represent the agricultural societies can do a great work along the lines of education on the question of proper varieties, and proper package and packing. I do not know whether many of you have been identified closely with any phase of the fruit industry. It has been my privilege to do more or less work among fruit growers. I have had the opportunity to observe rather widely, and find that we are producing in this Province to-day and are trying to sell a lot of varieties of apples which we should eliminate altogether. At the same time we have other varieties which are highly desirable, that are money-makers,



Six-Horse Team.

as they are the proper variety. That, of course, varies according to the districts. Certain districts can grow certain varieties.

If you take the prize lists of many Fall Fairs held throughout this Province, you will find in most cases a long list of varieties. Your Secretary sent 21 prize lists of Associations for me to look over. I found none which had what I thought was a proper form of prize list. My point is that Fall Fairs should divide their prize list in fruits, making two sections for apples, pears, and peaches, viz., commercial and domestic fruit. Put in the commercial list varieties which are the best commercial apples for this purpose for your locality and can be produced to the best advantage.

This variety question is one of the difficult points. I do not know any point in connection with fruit-growing which is more difficult to explain, because when you touch varieties you have to go into the question of markets, prices, yields of varieties and their climatic adaptability, and this question certainly does constitute a serious problem.

I have here a prize list of the Guelph Central Fair, from which I will try to illustrate my ideas. They have divided their prize list of apples into 12 commercial varieties. There are in that list of so-called commercial varieties many which I am positive should not be included as varieties for that district. The Baldwin apple heads the list. This is not a commercial product in that district. They are not grown in that county and have not been for a number of years. They used to be, but two or three cold winters eliminated the entire variety. I could go on like this up to the end of the list, but have not time for such a lengthy discussion, but would say that the Fall Fairs should distinguish in their prize lists between the commercial sorts and those intended for other purposes. The distinction I have drawn between the commercial and domestic varieties does not cover, probably, all phases of the variety question, *i.e.*, it is desirable to recognize in some way the best dessert and the best cooking varieties. This can be done in the way which has been carried out by the Guelph Central Fair. This prize list has a class for the best collection of five of the above named varieties for dessert purposes; also the best five for cooking purposes. This brings these particular varieties more particularly to your attention. I would rather see a special prize or any sort of prize given for a collection of that kind, than a prize given for a general collection of fruit. So many prize lists have a prize given simply for the largest display or the largest collection of varieties. In my opinion a prize given for that purpose increases the difficulty. It multiplies the number of varieties, and unless you distinguish between the commercial and domestic sorts you are creating an impression that your locality is capable of growing an immense list of varieties, and I am quite satisfied that you will find that a great many of them are not commercial possibilities.

There are a number of educational agencies in the Province working towards the improvement of our packages and packing for our fruit. The Dominion Government has stationed in Ontario a man who devotes his whole time to instruction in box and barrel packing. The Ontario Government has a man every season go from place to place holding packing schools and teaching the packing of apples. We have in session at the Agricultural College at Guelph at the present time a class of over 40 students in box and barrel packing. We have an instructor, and young men and women come in there for five days and do nothing else but pack apples. Some stay only three, some four, some five. These men are all aware of the necessity of efficient instruction in packing.

As the Fall Fair is an object lesson, I do not really know where you would find any place where more information and more knowledge could be better acquired, and it seems to me that this Association could bring this matter of packing prominently before the attention of the public. Why should not a man interested in fruit be able to go to a Fall Fair and learn from an expert how to properly box apples? It seems to me that the Fall Fairs could present a great deal of useful information in that line. The only fair which gave an address of this kind in 1912 was the Norfolk County Fair. They had a splendid exhibition of box and barrel apples. Prizes should be given for commercial package; quality of fruit; also character of box and package. A good many people interested in box packing learned a good many things there they did not know before. The same may be said of barrel packing. In my opinion our Fall Fairs could do a great deal of educative work on this point.

J. L. Miller: Would you give us some further information as to commercial or domestic varieties?

PROF. CROW: There are three varieties of apples in the Province of Ontario—Snow, McIntosh, and Northern Spy—that can be grown to perfection. These three are certainly first-class for any district that can grow them. The McIntosh Red apple is an Ontario product. It is found on very few of the prize lists of Fall Fairs in this Province to-day. This may be because many people do not know much about it. This apple is being more widely planted in Canada and the United States from the Atlantic to the Pacific than any other variety of apple. We ought to know more of it. It will succeed well in the Muskoka district.

A feature which should be included in every prize list in this Province is a prize for the best seedling apple. McIntosh Red is an Ontario product, which has become to-day one of the leading commercial apples in most of our apple-producing

Percherons on Parade.

sections in Canada and the United States. It has been about 100 years in reaching its present position. In a great many districts of Ontario it is not known yet. It seems to me it is altogether too long for a good variety like McIntosh to be left unnoticed. If our Fall Fairs would offer prizes for seedling apples we would stand on record as having introduced into cultivation new varieties wherever they happened to come from.

A MEMBER: Will you give us the names of varieties you have enumerated on that Prize List?

PROF. CROW: For Commercial List: Blenheim, Duchess, Cranberry, Greening will grow in Wellington fairly well.

Gravenstein, Hubbardston, and King are classes of apples which sell for splendid prices, but are not money-makers. Blenheim, Duchess, and Spies are splendid commercial apples.

A MEMBER: Two out of every three of these apples are no good commercially. When we see boxes packed, we think it is easily done. I undertook to pack a box but found that it was not an easy job. I would suggest, besides giving a prize for best packed apples, that we ought to do something for the exhibitor who displays art in packing. It is all right to see a nice box of apples put up, but to get at the way of doing it is where the education comes in.

J. L. MILLER: Every agricultural society in the Province will benefit by Prof. Crow's address. We are not all fruit men, and sometimes the secretaries of the agricultural societies who revise the prize lists are not fruit men. In these cases, if we submitted the prize list to Prof. Crow, would he revise it.

PROF. CROW: I would be glad to revise any prize list submitted to me. I will do the best I can for every district.

J. L. MILLER: There is a vast difference between Haldimand and Norfolk. What would be a commercial variety for Haldimand, and what for Norfolk? Would Prof. Crow inform us on this subject?

Part of Shorthorn Parade, C. N. E.

PROF. CROW: For a southern county like Essex, Kent, or Norfolk or any similar district, the Dudley apple is first-class. They can be put on our markets before any other apples are available. They bear well if picked when of proper size, they carry well, and they are a first-class proposition for the most southern district.

G. HYSLOP: We have one of the best counties for fruit in the Province. We sold between 5,000 and 6,000 acres this fall of fruit. We received three carloads of fruit trees of the best varieties produced. In four or five years we will have, probably nearly 8,000 acres in the county of Norfolk.

H. LEAVENS: We had in one of the townships of Prince Edward County this year a fair that was more interesting to me than any I ever attended, and that was one at which the boys and girls attending the school of that township exhibited. They were given fruits, vegetables, potatoes, corn, and various seeds, and attended to them themselves. When the fall fair was held the children joined

and prizes were given for the products and the greatest interest was displayed by the children and parents. I would like to ask Prof. Crow if he could suggest anything that would interest the boys particularly in preparing something in the line of fruit for this exhibition.

PROF. CROW: I have not any special suggestion to make. I appreciate very fully the advisability of securing the interest of the younger generation, but just how to go about it, I have not specially thought out.

P. S. EWING: I would like to get a list from Prof. Crow for East Northumberland.

J. W. MOYER: We can ask all this by letter. Do you not think there is a chance of over-lapping in our districts, by having the Horticultural Societies practically covering the same ground?

PROF. CROW: My idea is this. Lincoln County stands in a class by itself. In districts where box or barrel packing is not what it might be, fall fairs could assist. If this particular subject is getting all the attention it deserves in your locality, there is no need for over-lapping.

A vote of thanks was given to Prof. Crow for his address.

ONTARIO'S WHITE COAL.

F. A. GABY, TORONTO.

I have been asked to give you some information on the work which the Hydro-Electric Commission is doing to provide the rural districts of the Province with a supply of electric power.

It is most difficult for farmers and others living in the country to appreciate fully the great advantages of a steady supply of electrical power on the farm, and how electric lighting and cooking, and the use of small electric motors tend to revolutionize the work connected with modern rural life.

During the summer of 1911 the Chief Engineer of the Commission visited several European countries where the scheme of distributing electric power to the farm has been thoroughly tried out with great success and resultant economies to the farmer.

Every phase of the question was given attention and the question of the cost of distribution was carefully studied.

The Commission were so favorably impressed with the work that was being done in Europe that they recommended that demonstrating outfits be placed in the field and tried out on the farms in this Province. This was done during the last summer, as I will describe later on.

During the Session of 1911 a Bill was introduced by the Legislature to facilitate the distribution of electricity in the townships and small villages and it was enacted as follows:

Sec. 3 (Power Com. Act, 1911). That one or more of the ratepayers in a municipality, the corporation of which has not entered into a contract with the Commission under the Power Commission Act, may apply to the corporation to obtain from the Commission a supply of electrical power or energy for the use of such ratepayer or ratepayers for lighting, heating and power purposes, or for any of such purposes.

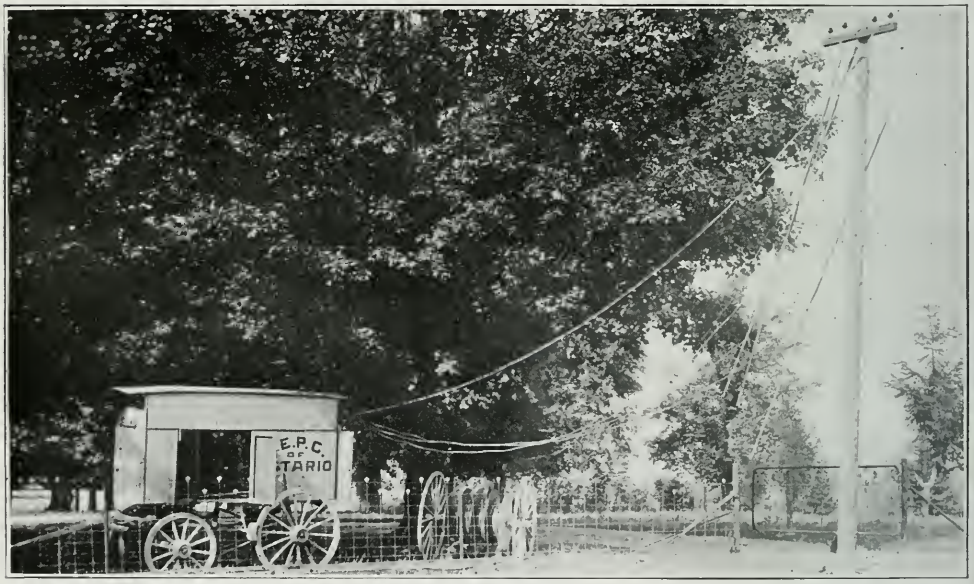
Sec. 4. The application shall be in writing, signed by the applicants, and shall state the lots or parts of lots owned or occupied by each of them respectively, and the purposes for which the electrical power or energy is required.

Sec. 5. The Council of the Corporation shall thereupon request the Commission to supply the electrical power or energy for the purposes mentioned in the application.

A number of municipal corporations have availed themselves of the provisions of this Act according to the following proceedure:

A petition signed by any number of residents in a township giving their location and amount of power required, is forwarded by the Township Council to the Hydro-Electric Power Commission. The Commission then prepare an estimate of the cost of constructing a distribution system and the cost per horse-power per year. This is submitted to the petitioners who consider the same and request the township to enter into an agreement with the Commission for the supply of power to the township.

A large number of petitions have been received by the Commission from various townships on the Niagara system and estimated cost of power submitted. Up to the present no contracts have been entered into with the townships, but lines have been built out into rural districts and will be operated by the nearest towns



Transformer Wagon.

until the Township Council is prepared to take them over. This arrangement enables a group in the township to be served at once without further delay through waiting for the rest of the township to enter the scheme.

The capital cost of building these lines is borne by the Commission and the township. The township has to provide about 1/3 of the capital expenditure by an issue of debentures, the remaining 2/3 being borne by the Commission.

The actual rates to the consumer must of course cover the annual charge on the above capital expenditure, and it should be noted that this may be considerably reduced if the farmers themselves will help to build the branch lines among the farms.

A fixed service charge of say $2 to $3 per residence per month is made, and in addition either a flat charge of say $36 per horse-power per year, or a consumption charge of so many cents per K.W.H. or unit of power. This usually works out as follows:

1st. On a Flat Rate. If a farmer contracts for ½ horse-power on flat rate he can use this power either for running his motor or lighting or cooking 24 hours a day for the fixed charge of $2 per month and $36 per horse-power per year, or a total charge of $3.50 per month.

2nd. On a Meter Rate. Here he pays for what he uses in addition to his fixed charge per month. His total bill per month will then depend on how many hours a day he uses his power.

During the last summer the Commission, in response to a very large number of requests for information and inquiries, decided to carry out an educational campaign in the rural districts, and at the same time make a close investigation of the cost of performing the work of the farm with electrical power. With this object in view two threshing and silo filling electrical outfits were constructed by the Commission. These outfits toured the country, actually doing the farmer's work on his own farm. This outfit consisted of two wagons, one containing two transformers and the other a 25 horse-power motor.

The transformer wagon was placed on the road near the transmission line and was connected to the 22,000 volt transmission line through three rubber-covered cables provided with wooden poles and hooks for connecting to the line. On page 30 you will see the transformer wagon. From the transformer wagon three more rubber-covered cables conducted the power through the fields to the barn where the motor wagon was placed. All connections could be made in fifteen minutes, and the motor was then ready to start, and once started would run without further attention. Thus all the labor of hauling wood and water, firing the engine, and one man's time attending to the same, is completely wiped out. The saving in money by using electric drive will be apparent to all. Large crowds of farmers attended these demonstrations and were emphatic in declaring their desire to get power installed on their farms as soon as possible.

The following figures give an idea of the rate the work was done and power taken:—

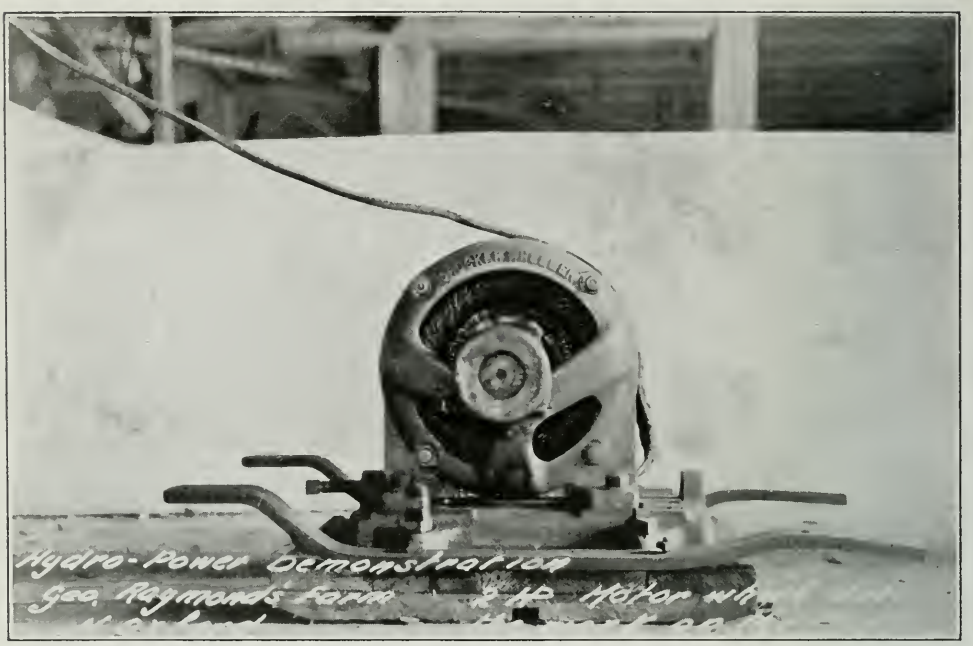
Thrashing Oats:

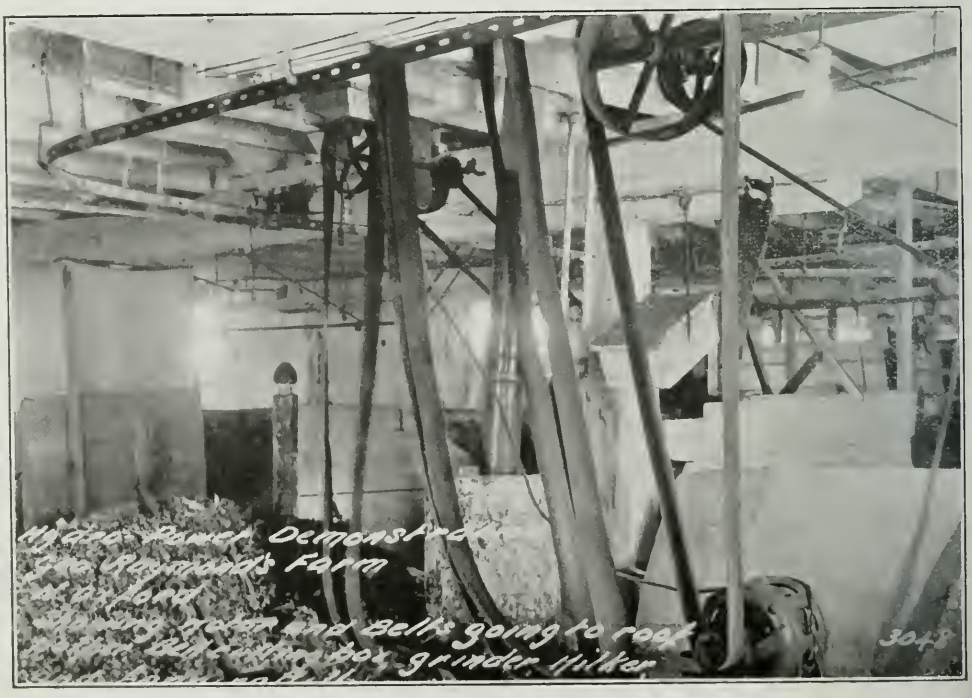
Oats thrashed, 1,190 bushels.
Total time thrashing, 8 hours 20 min.
K. W. Hrs., 141.
Average H.P., 22.
Bushels per hr., 143.
Bushels per K.W.H., 7 5.

Silo Filling:

Size of silo, 15 ft. x 40 ft.
Type of Box used, Blizzard No. 3.
Quantity put in, 175 tons.
Total time running, 20 hrs. 3 min.
K. W. Hrs., 336.
Average H.P., 22.4.
Tons per hr., 8.75.

These figures were found to vary in different cases very considerably, depending on the state of corn and grain and the weather conditions encountered. To demonstrate how the smaller work of the farm might be done, the Commission sent


Hydro-Power Demonstration
Geo. Raymond's Farm


Hydro Power Demonstration
Geo. Raymond's Farm
Belts going to rock
grinder Miller
304

out a 50 horse-power gasoline motor truck on which was mounted a milking machine, cream separator, churn, steel frame circular saw, washing machine, electric pumps, etc. A 3 horse-power 110 volt electric motor was also mounted on the truck and employed to drive the various machines.

A series of exhibitions was also carried out by the Commission at the Canadian National Exhibition and at the Fall Fairs throughout the country, and at these the electrical kitchen with its electrical stoves, coffee percolators, toasters, etc., were shown in full operation, also a model electrical dairy and all machinery used on the farm run by 2 and 3 horse-power motors. The Commission's engineers were in attendance at these fairs and explained the Commission's proposals for rural distribution on a flat rate basis.

It is recommended that each farmer shall contract for 2 or 3 horse-power. This will give all the lighting he needs in the house, in the barns, in the yard, and at the gate. He can instal a 2 or 3 horse-power motor for pumping, grinding, sawing wood, pulping roots, milking machine, etc. If at any time the power is not being used in these ways he can throw it into heating water, running a flat iron, and so on.

For the heavier work of the farm, such as thrashing and silo filling, the Commission recommends a number of farmers to form a syndicate. Thus, if there are 10 farmers in a district contracting for 10 horse-power each, they can own a 20 horse-power outfit and lend each other their power so that a farmer need only pay for 2 horse-power, but he will get the use of 20 horse-power for his heavy work.

A number of demonstration farms have been equipped with electrical power, and where the recommendations of the Commission have been closely followed out the results are most satisfactory. I am showing some photographs of Mr. Raymond's farm near Ingersoll. Page 32 shows you how Mr. Raymond has installed his 2 horse-power motor in the cow stable and drives his various machines by a series of belts. Page 34 shows the motor moved out into the yard driving the drag saw.

We are busily engaged at present in equipping new farms at St. Thomas and Woodstock, and building lines through the rural districts of Toronto Township, every effort being made by the Commission to promote the work of rural distribution.

It is satisfactory to see the large power companies in the States also taking up this question with great enthusiasm, as it confirms the opinion of the Hydro-Electric Power Commission that the farmer will soon consider a supply of electric power as necessary for his farm as the manufacturer for his factory.

ADDRESS.

Hon. Jas. S. Duff, Toronto.

I did not come in sufficiently early to hear all Mr. Gaby, one of the engineers of the Hydro-Electric Commission, had to tell you, but I know something of what is being done in connection with the work of the Commission to evolve a scheme that will bring electricity to the home of the farmer, relieving him of labor, lightening his burdens, and making it more pleasant than ever to be identified with the agricultural profession in this country.

Filling Silo by white coal power.

I was present at Cooksville, in Toronto Township, when Mr. Beck and those associated with him were there to show the people what could be done.

When this point has been reached that practically all the work of the farm in connection with dairying, chopping grain, cutting wood, washing, and many other household duties, in fact everything but thrashing and cutting corn, can be done by means of electricity then farm life will be much more agreeable.

I trust that your deliberations will prove of material benefit to all concerned, because you are a great association; you meet here from year to year representing some 400 societies, and as you grow older you should be able to evolve methods that will prove very beneficial and make the agricultural societies a great educational factor, a great social factor, and a great factor generally in the up-building of agricultural conditions. Unless you do this I do not think your meetings will have the effect that those whom you represent expect they will have. I have no doubt of this, however, because I cannot conceive of a body of representative men such as you are sacrificing their time, money, and effort, without great results. I do not know of any men in this Province of Ontario to-day connected with agricultural matters who do more work themselves, sacrifice more time doing more for nothing as far as they are personally concerned, than the people who are identified with the various agricultural societies. It is a labour of love; it is the same principle that penetrates the result of successful organizations for almost every sort of thing going on in the country to-day. We do not care where it is, either in Church or State, the great bulk of the men who make the world move were benefactors to their neighbors, were of a self-sacrificing nature, but none more so, speaking from experience, than you. I know what it means. Perhaps in the middle of the harvest a board meeting is called. A man leaves his work and drives eight to ten miles. What for? He derives no benefit from it; he makes no money out of it; but because of his love for the profession with which he is identified and his desire to see the Fall Fair a success. Every Fall Fair that is held in this Province of Ontario with bad weather and proves a success should be another stimulating influence for the betterment of agriculture in the neighbourhood in which it is held.

In all these self-sacrificing movements on the part of the men who are directors of the various societies throughout the Province you have my hearty co-operation and sympathy, and it is quite safe to say you have the sympathy of every public man in connection with the public life of the Province. And why not? That which benefits the agriculturist benefits every person. When agriculture languishes, everything else does also; and at the same time in this country and under conditions we find ourselves in, while it is true that when agriculture languishes, everything else languishes, perhaps it is equally true that with the progress of agriculture and its successful development we are able to carry along in this country a development of occupation, of employment attitude, which makes us a great country, which has built up our large cities and towns, and which has made such a magnificent home market for those who have toiled and worked on the farms of this Province.

Within the last ten years the thought was uppermost in the minds of many men that it would only be a little while until Ontario would be in the background because of the tremendous development of Western Canada. But, while Western Canada has been developing, Ontario is developing, too. We have been developing by leaps and bounds, and I think it is safe to say that perhaps we stand as high from the standpoint of progress in Canada as we did at the time of the Confederation in comparison with the other Provinces, and possibly higher.

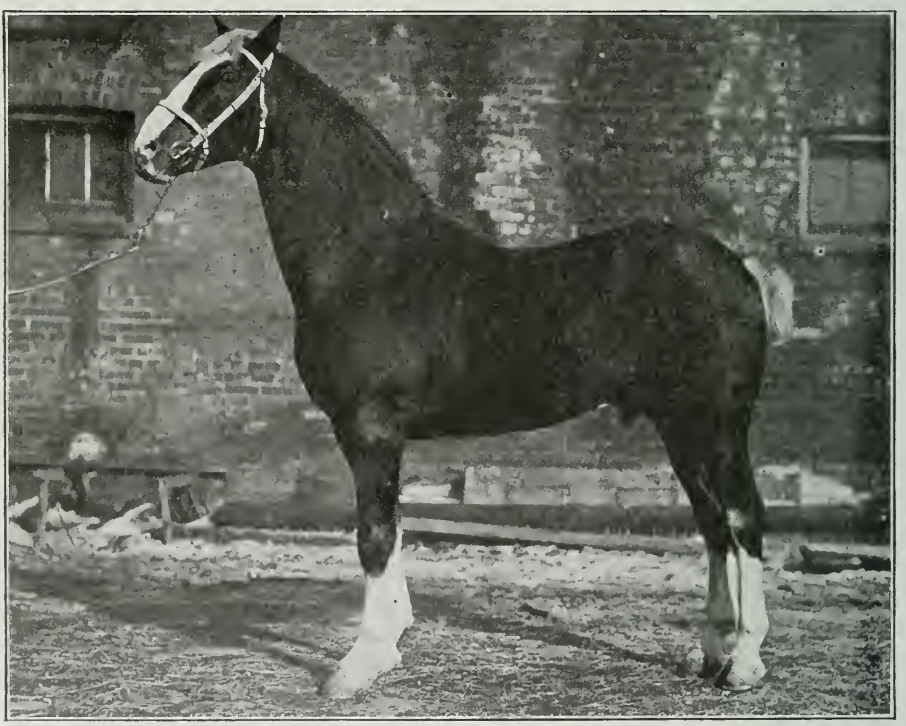
A vote of thanks was tendered to the Minister of Agriculture.

ADDRESS.

HON. NELSON MONTEITH, STRATFORD.

When I look around me and see so many familiar faces, I feel quite at home, although I notice many new faces. This is our oldest farm organization, and it has been running smoothly for 100 years. Organized in 1792, it was the first institution got together for the betterment of agriculture. This is the most virile of all organizations for the uplift of the farmers.

The question that appeals to me is the best manner of furthering the work you have in hand. We have at the present time throughout the Province a number of organizations. Your society is the largest and most important. I see before me



Hackney.

representatives from every section of Ontario, all the way from Kenora to Glengarry. Your delegates bring to this central organization new ideas that will make it more useful in the work you have on hand.

The professional exhibitor, in my judgment, is a detriment to the Societies. What these should do is to till new ground and bring out new and better exhibits from year to year. I believe the Field Crop Competitions and other things introduced in recent years have done much to bring about a different condition in agricultural societies. This work is in its infancy and you are the men who must give the impetus to the great possibilities you have in your keeping.

As one of yourselves, anything I can do even at the cost of personal inconvenience, I am willing to do, and I believe it is one of the most patriotic duties of citizens to help the uplift of agriculture.

That is one of the greatest advantages of meeting here. At a meeting some years ago it was said that this organization had outlived its usefulness. I am glad to say it has still justified its existence. Men come here with the highest motives to make this organization of great usefulness to agriculture. You come here from the different societies, and you carry back ideas that will be of use to you. I plead with you, as one interested in agriculture, to do what you can to encourage the boys and girls to take part in your work. The children of to-day are the citizens of to-morrow. We are the men who must carry the burden, and if we can interest them intelligently in the work, we have taken a great step in advance. We learn from experience what can be taught at the present time under the name of agriculture, which is after all knowledge systematically arranged so that we can take it in easily without having to go through it with the experience of years behind us. It is time we tried as far as we can to learn why and wherefore, and interest the children in growing and care of livestock, in fact everything pertaining to agriculture.

I thank you for your attention. It is a pleasure to me to see so many of the old friends who are still in the ranks helping on this work. And the words of the Minister are well put when he said, "It is the most favored land on which the sun shines."

ADDRESS.

D. M. McPherson, Lancaster.

While you are moving in the right direction and are doing splendid work. I believe there is one question that is overlooked in connection with this work and that is profit. The work of this Association is governed to a large extent by the amount of money at its disposal. Is it not to make agriculture more profitable? If Directors of Agricultural Societies would offer prizes in each County for the farmer who ran his farm on the best business principles and could show the largest amount of profit at the end of the year, these farms would become object lessons for the young men, and encouragement would be given to others to do likewise.

Another advantage in promoting profitable business methods is that the land would be increased in value. As you increase the net profit per acre, the increase in the value per acre becomes apparent. Experiments I have been introducing are astonishing people as to the net profits that can be obtained on a 100 acre farm. I have taken the census of Ontario, Western part of Quebec, Manitoba and the Western Provinces, and it is surprising when you figure out the small net profit the farmers are receiving for their capital and labor. If all the labor was charged to the people of the farms from one end of the year to another, return of net profit would be small indeed. It is possible if the work is directed in a proper way that the profit can be increased four or five fold and perhaps more, and I hope within a year or two to be able to present to you a sufficient volume of data and lay out a system eventually, which, if put into practice, will increase profits from $15 to $20 per acre and increase the value of land $2 and $3. This can be accomplished inside of three years.

AUDITORS' REPORT.

The auditors appointed for 1912 beg leave to report as follows: We have examined the Treasurer's books for the past year and found them correct with vouchers and a balance on hand of $324.94, which amount is placed in the bank to the credit of the Association.

Respectfully submitted,

R. Agnew,
Wm. Collins.
Auditors

A grant of $25 to the Sick Children's Hospital and $25 to the Sanitarium at Gravenhurst was carried.

Judging Holstein herds.

IMPROVED SYSTEM OF FAIR BOOKS.

Percy Rogers, Assistant Manager, Canadian National Exhibition.

Time will not permit me to go into a system which will fully cover the requirements of a fair. I shall, therefore, only explain a method which I feel sure will enable you to keep an accurate account of your entries, the awards, prize money offered and amount paid out for this purpose arranged in such a manner as to enable you to make up accurate and prompt returns as required by the Agricultural Department of the Government.

From the number of inquiries received, I judge some secretaries find it difficult to adopt a system applicable to fair work. I pride myself with having inaugurated a system in connection with the Canadian National Exhibition second to none, and I feel safe in saying it is the only exhibition which can pay to its exhibitors prize money within a few minutes after the awards have been completed; and if this can be done with an exhibition having thousands of entries and exhibitors, and paying out over $40,000 in prize money, there should be no difficulty in adapting a system which will do the same for fairs of a smaller scope.

Before making an explanation of the two books from the samples upon the canvas, I desire to offer to the members of this Association at any time information which will be of assistance to them in their Secretarial work.

The prize list is necessarily the foundation of fair work, and particular care should be exercised in the revision of the list to see that every class, section and special prize is properly numbered.

1. Before the opening day of the fair, or previous to receiving entries, copy the prize list into the entry book entering class and section in column (1), a description of the animals or articles in column (2), the amount offered for each prize in column (4), the total amount offered by the Fair Association in column (5), and, if required, note in column (9) the name of the Association, Society or individual making the grant. The book is now ready to register entries. Put the amount of Grant, if any, in column (7).

2. On receipt of entry sheet enter in column (1) of the Record book the number assigned to the exhibitor, name and address; in column (2) the amount of the entry fees. If the fees are not remitted with the entry sheet, leave amount in column (3) blank and note same in the remarks column until paid.

3. Mark on the right hand corner of the entry sheet the number assigned to the exhibitor.

4. When all the entries are in and the entry sheets recorded in the Record book and numbered, enter the Exhibitor's Record number in column (2) immediately under the description of the Class or Section in which the entry is made. If an exhibitor makes more than one entry in a Class enter in *red ink* the extra number of entries above the exhibitor's number.

5. As soon as the awards are made enter from the Judges' Book or card in column (4) under the respective prizes, the record number of the Exhibitor to whom the award was made.

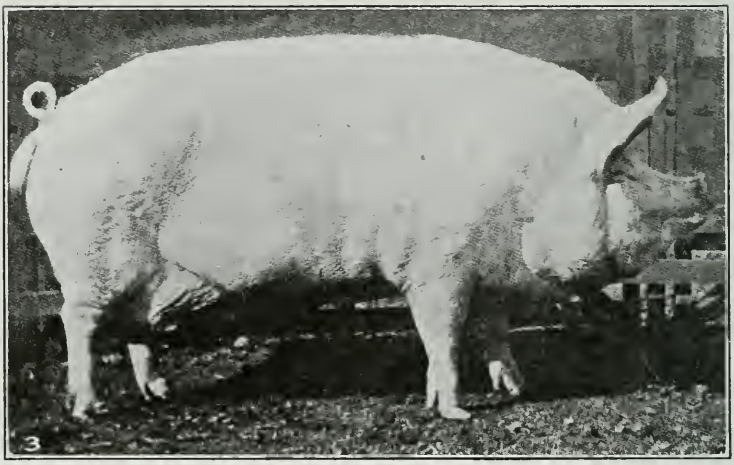
6. When the posting of awards is completed in the Entry Book, credit the exhibitor in the Record Book with the amounts awarded to him. You will then have each exhibitor's account complete and be ready to make payment. You will be well advised to have the exhibitor make up a list of winnings for comparison before paying.

7. When payments are made, mark in column (6) the cheque number. If payments are made by cash, mark the word Paid.

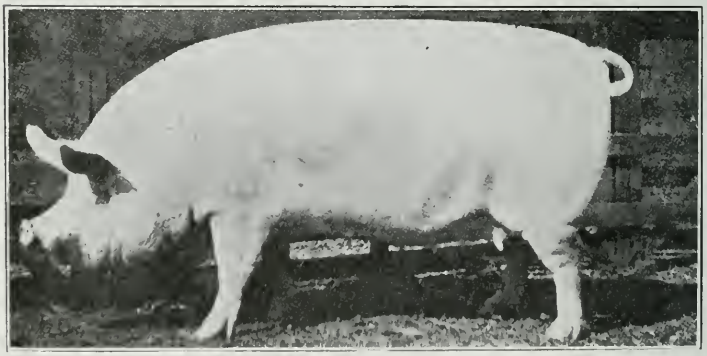
8. At the close of the fair, extend the total amount to be paid by the fair to column (6) and special grant if any to column (8). Total each page, keeping the grant totals of each Department separate. These totals will be ready to make up your statement required by the Government.

These sheets can be procured at a minimum cost. A sample and explanation will be mailed to anyone on request, and I feel sure after you have made a few imaginary entries, you will be convinced that the system is good and worthy of consideration.

D. Evans: The plan drawn up by Mr. Rogers would be a satisfactory one for a big exhibition like the Canadian National, but in a small fair when you are taking entries right up to the last hours before the exhibition, say 1 and 2 o'clock, I would like to know if Mr. Rogers' method would be suited to the requirements of most of the Agricultural Societies of this Province. Your circumstances are altogether different to those which are met by the ordinary secretary in the discharge of his duties. You have splendid office equipment, and we have not. I do not think you appreciate the difficulties that beset a secretary on the day of the



Yorkshire Boar.



Yorkshire Sow.

show. If the entries closed one or two days previous to the exhibition, I can see that this would be a splendid method, but do not believe, as far as I am able to see, how it could be adopted to meet the requirements of the secretaries of this Province where we take entries right up to the moment of the exhibition.

P. ROGERS: It would be impossible for the Canadian National Exhibition to adopt an exact system. The very point you speak on is the reason I have brought this plan here to explain it to you. I can take 300 entries in two hours, enter them up and have them ready for the fair work. This system eliminates trouble. I am not asking you to adopt this system. I have given it a great deal of thought, and if you will test it by making imaginary entries, I am sure it will help you. If it will be of help I am glad to have been able to come here and explain it to you.

A MEMBER: When paying prize money at the close of the exhibition, how do you do when there is a protest?

P. ROGERS: When your account is made up, if there is a protest, enter the word "Protest." It has to be made within a certain number of hours after the judging is done. If you have an executive committee to deal with protests, you can deal with it in a few minutes, remove it from your book and the clerk will pay the money.

J. LOCKIE WILSON: Mr. Rogers has arranged to submit this system to the 375 Societies with full explanations, and have it printed, and we can arrange to get a large quantity of these sheets and any society that adopts that system can send either to Mr. Rogers or myself, and we will forward you as many as you like. It is for you to consider the matter and see what you will do.

A MEMBER: I have adopted the loose leaf system by which, if I cannot make my entries in my book, (as in a country fair we sometimes have to take entries up to the last minute), I file every entry list. From Mr. Rogers' explanation of this entry book, any secretary of any country fair who adopts the loose leaf system in connection with that book, and fills in every entry he gets, and, when he gets time during the fair, enters up his entries, will find this a satisfactory method. We take thirty days to pay our prize money.

A hearty vote of thanks was tendered Mr. Rogers for his address.

RESOLUTION.

Moved by NEIL MCDOUGALD, seconded by J. C. STUART, "that whereas large areas of land in this Province are in urgent need of underdrainage,

"And whereas farmers have this year, and for many years lost heavily by portions of their farms being too wet, and whereas owing to the scarcity of hand labour, it is practically impossible to secure help to lay the drains.

"And whereas the traction ditcher if generally introduced into Ontario would solve the difficulty, and whereas traction ditchers are not manufactured in Canada, and whereas the duty which is 27½ per cent., amounts to from $500 to $750 on a machine suitable for Ontario, depending on size of machine,

"And whereas a sum of this magnitude in addition to the cash payment on this machine is prohibitive to many men considering the purchase of one of these machines,

"And whereas this prohibition is a direct monetary loss to the farmers as long as they are unable to get their drains put in, and whereas the late Chairman

of the Tariff Committee of the Canadian Manufacturers Association has stated that the number of these machines required in Canada would not warrant any factory starting to build them as a specialty, and therefore it would not be detrimental to any Canadian industry if they were made free of duty, and that therefore the said Manufacturers Association has decided to recommend the removal of the duty.

"Therefore be it resolved, that we, members of the Ontario Fairs and Exhibitions Association in meeting assembled, hereby place ourselves on record emphatically and unanimously, as favouring the removal of the duty from traction ditchers and parts thereof.

At Central Canada Exhibition, Ottawa; Grain and Sheaf Exhibit.

"That we hereby respectfully urge upon the Honorable the Minister of Customs, that the said duty be removed at as early a date as possible.

"And further, that the Honorable the Minister of Agriculture for the Dominion be hereby respectfully asked to support the suggestion for the removal of the said duty until such time as they are manufactured in Canada.

"And that the Secretary be hereby instructed to send copies of this resolution to the Right Honorable R. L. Borden and the Honorable the Ministers of Customs, Agriculture and Finance at Ottawa." Carried.

PROPER CLASSIFICATION OF LIGHT AND HEAVY HORSES AT FAIRS AND EXHIBITIONS.

LIGHT HORSES.

DR. RUTLEDGE, LAMBETH.

I have been asked to say something with regard to the classification of light horses and more particularly for show purposes. There are a great many things which lead up to classification, and some of which in a few moments I will mention. It is much easier for a horseman to observe the necessary characteristics or type of certain class than it is to describe them. There is usually, and too often in fact, confusion and dissatisfaction in the show ring on account of not having proper classification, and it is the duty of the judges in justice to those who are properly classified, to throw out any that may be out of their class, and by your not doing so you know the exhibitor is not only dissatisfied but sometimes discouraged, and endless trouble is caused not only for the judges but for the judges and Secretary, and other officials of the show.

I have frequently had exhibitors come to me and ask me my opinion as to in what class they should place their horse, whether in the road or carriage class. These appear to be the two classes which cause the most confusion among light horses in the show ring, and when we take into consideration that a few years ago in rural shows they had a class called Road and Carriage class, you are not surprised at the confusion in these two classes, but that class has now been done away with.

The road and carriage horse of a few years ago was a class where speed was expected, and also the necessary qualifications or type of carriage horse along with it. I will admit there is a difference of opinion even among good judges as to the proper type of a certain class, and this is accounted for in this way, that there are reverse judgments with the same horses at different shows, with different judges; different opinions as to the particular type of a certain class.

When speaking of the road horse I am referring to the Standard Bred, and in speaking of the carriage horse more especially to the Hackney. I have had but little experience along breeding lines. Many of you present have had more, but I have handled horses on a small scale for a great many years, and understand the principle of Standard breeding. I have also been a judge at the different shows through the Dominion of Canada, and also in some of the larger shows of the U. S., and I find that the more we handle horses, the more we judge at the different fairs, and the more we watch the judgment of others in the different classes, the better posted we, naturally, are. There are none of us infallible. We all make mistakes. But the more experience we have, the better posted we should be.

I have been asked more than once if I was a Veterinary Surgeon by those who were not well acquainted with me, on account of my taking a somewhat active part in the light horse industry. I may say I am not a veterinary surgeon. I am an M.D. But my hobby, for the past 25 years, has been a light harness horse, and more particularly a light horse. I think every person has, or should have, a hobby for something. In fact, it is a source of pleasure and recreation from worries of business, no matter what the business may be: and it is the only way by which we can attain perfection and reach the top rung in the ladder which we are all striving for.

You might just as well try to run a grocery store without groceries and expect to succeed as to try and run the horse industry without a careful study of the

experience of those concerned. The first question which many will ask me is, "What is the Standard Bred or road horse?" and included in that are trotters, showing it is necessary to have speed. The rules governing Standard Breds are changed from time to time, so that to-day no animal can be registered unless we can trace his ancestors for at least two or three generations. One hundred years ago running was the most characteristic gait for horses. Later on the so-called artificial gait, trotting, became recognized, and, still later on, speed; it, probably, appealed to horsemen as something worth developing for itself alone. There we have the foundation stone laid for the great trotter or light horse.

One hundred years ago the time of the trotter was only 3.06 minutes. Fifty years after it was reduced to something like 2.40, and to-day the horse who can trot close to the two minute mile is not prized any more highly than the horse of

Beef breeds.

fifty years ago trotting in 2.40. What is the cause of this reduction in time? It is due to two causes, inheritance and development. By development we can so intensify as virtually to create inheritance; and inheritance, if left undeveloped, will certainly gradually degenerate. It has been proved beyond doubt that the progeny of the undeveloped animal cannot compare with the progeny of the developed animal; although some writers say that the progeny of the undeveloped animal is superior to that of the developed, and they give as their proof some horses with fast records out of undeveloped sires and dams. This was their proof that these non-developed horses were superior to the developed. We must remember that there were freaks in ancient times just the same as to-day, and if you will go back three or four generations and follow these sires and dams back probably one or two generations, you will find that their sires and dams were not only gifted with instinct but had development too.

What is instinct? Instinct is the same inherited habit. A child may have good instinct, but if it has not development, education, it is not bringing him out in his true light.

The light harness horse industry is one that the farmer, breeder, or business man cannot well do without. Even in this age when the automobile, bicycle, aeroplane and other inventions are creating wide-spread interest, the Standard Bred is here to stay. In fact, I predict an era of unprecedented success for the Standard Bred in the future. Dealers tell us that the prices of Standard Breds are high; that the demand of to-day compared with the past is greater than the supply. I can vouch for this myself, as when I go out to buy a good road horse or Standard Bred I find great difficulty in getting at any price the animal I would like to secure.

The great central truth in the re-production either of animals or plants is summed up in this one phrase "Like begets like," and that axiom with the intelligent breeder is accepted as the fundamental and basic truth. In fact, the fast trotting and running instincts are so entirely different that it is usually understood that the foundation of the trotter is not the runner, nor the foundation of the runner the trotter. If we breed Standard Breds to Standard Breds we get Standard Breds. If we breed Thoroughbreds to Thoroughbreds we get Thoroughbreds; but if we breed a Thoroughbred to a Clydesdale we get a mongrel, and in breeding from them we get disappointment. "Electioneer" was a horse by "Hambletonian." It was not developed, but it could trot the quarter in 35 seconds any time when called upon, and he could impress his instinct and habits on his progeny from any kind of dam.

There are exceptions to the rule, and while I will admit that there are good race stallions in this country that can impress their instincts and habits and actions on their progeny, they are uncertain and cannot be depended upon, therefore we should not establish a precedent of this sort.

The Standard Bred has reached his present stage of perfection by development of his unbroken instinct and trotting facilities, and these inheritances have become stronger in each developed generation. Sixty years ago the Standard Bred was hardly known.

Regarding licensing of the Standard Bred, the Act which is in force will benefit every breeder in the Province of Ontario and in the Dominion of Canada. I can remember when only poor dams were kept for breeding purposes in this country. They were useless for anything else; the good dams were sold, and many of them left the country. I am pleased to say this is not the case to-day. They are keeping the good dams, mating them with sires which have breeding, style, formation, and are devoid of any of the defects, and they are certainly getting results and will continue to get them.

What has all this to do with classification? It means that if we do not breed right we cannot expect good results. If we get uniform results classification is made much more easy.

In speaking of the road horse or Standard Bred, in the first place he must have speed, a reasonable amount of size, anyway from 15 hands to 15.3; good way of going, good stride, must not swing out or swing in. In swinging out he appears very awkward in the show ring and to the proposed buyer; also if he swings in he is liable to hurt his ankles. These are things we should avoid in buying Standard Breds or any kind of horse. It is not necessary that he should go so close behind as it is with the carriage horses. This latter is expected to go rather close behind, although we do not like to see even a road horse go very wide behind. The road horse must have a good deal of motion, carry itself well, and must be heavy. A

docked horse is not a road horse, and should not be used for that class; in fact, when I am judging I advise you, who have one, to keep him out of my class, for you probably won't get what you expect.

The pacer is another class, and has been in our rural shows shown with the road horses. They are a distinct class and should be divided. They are at some of our larger shows. While I like the pacer for my own use, still in judging I give the trotter the preference and always will.

The carriage horse of to-day and that of a few years ago are entirely different. A few years ago they had style, formation, and looks. The road horse should have good limbs and feet, but the carriage horse was not expected to have much action or to go straight, as they claimed extra action when going over stones and pavements produced windgalls and was detrimental to them; but the carriage horse of to-day is different. We expect extreme action in front and behind at both gaits. The carriage horse may be docked, but let me advise the breeders in this country never to dock your horses unless you are keeping them especially for show purposes, and

Thoroughbred mares and colts.

do not intend to sell them. If you leave the tails on you have two buyers; you have the buyer who likes the long and short.

In regard to the General Purpose class, this is a class of horse that looks well, and performs duties in the plow, carriage, saddle, etc. I will not dwell on this subject.

The saddle horse is one that must have the type of the Thoroughbred. He must have some action both at the gallop and trot, be a good walker, must walk straight, go nice behind, must have oblique shoulder, but the cross-country horse is not expected to have so much action for the reason that he frequently plods through soft ground, and if he has too much action it tires him. What he wants is speed and staying quality.

As to the size of the different classes: The runabout horse is a small horse ranging from 14.3 to 15.1 hands high, having speed, action, and the more speed the better.

The ideal roadster for show and use is 15.2 hands high, weighing from 1,000 to 1,050 lbs. Carriage horses range from 15.3 to 16.1 hands high.

HEAVY HORSES.

JOHN GARDHOUSE, HIGHFIELD.

In judging heavy horses it is very important to have them properly classified, otherwise the results are not satisfactory.

At the average county fairs throughout the Province we find, as a rule, classes for heavy breeds, as Clydesdales, Percherons, Shires and Belgians. In the smaller shows you cannot have all these different classes. There are also classes for Agricultural and General Purpose horses, as also the light draught horse. In judging horses at some of the shows in this country in certain sections of the Province you will find heavier horses than in others, so that it may be difficult to arrange a prize list or classification that will suit every exhibition throughout the Province.

In many shows where members are not charged an entrance fee many of the exhibitors enter in more than one class. They enter a horse in the heavy draught and also in the agricultural class, and if there is an Agricultural and General Purpose class they enter in both. They wait to see what is entered before they decide in which class they will exhibit their animal, and in many cases they go to the judge and say, "Which class do you think my horse should be shown in?" Some associations think that the judge is there for the purpose of classifying horses. The judge makes a big mistake if he tells that exhibitor which class he should put his horse in. I want to tell you why I think that. If you take the judge over to see your horse, and the judge knows the minute he looks at him, if he knows his business, what class that horse should be in, if he tells that exhibitor that he should enter it in the General Purpose Class, and when he comes to exhibit the horse he fails to win a prize, he will be very apt to find fault with the judge because he told him to exhibit in that class and afterwards turned him down. If the judge undertakes to classify horses before he has an opportunity to pass judgment on them, he is likely to get into the bad graces of the exhibitor.

In many shows the classifications vary much in weight. You will find the Agricultural class described as for horses from about 1,200 lbs. or 1,250 lbs. to 1,500 lbs., and even in some of the larger shows they go up to 1,600 lbs. We should try at the larger shows to have classes, as far as funds will allow, for all the different pure breeds, in order to encourage them. If there is no exhibit you do not have to pay out any money. If there is an exhibit they should be worthy types of the breed they represent and have registered pedigrees. One of the important things the fairs should encourage is classes for all the pure-breds, because it will not pay to breed to anything but a pure-bred sire.

We should also encourage Canadian-bred draught horses, and have classes, where funds will allow, for heavy draught horses; if we can make separate classes for imported and Canadian-bred horses so much the better. However, many fairs cannot do this, and only one class can be made for both.

You must have the heavy draught class, and it should be for pure-bred animals as far as males are concerned. In all cases every male animal in a class should be recorded.

The Agricultural class in some shows is known as the light draught class. They are practically for the same type of horse, and should be a class fitted for general farm work. They have generally a little more quality than the heavy draught, good action, and free and easy walk, and are practically the same type of horse as the heavier horse, except that they are a little lighter in weight.

The Agricultural horse should have good quality, good action, and should, under ordinary conditions weigh from 1,350 lbs. to about 1,550 lbs. I do not pay much attention to weight on scales, because there is danger there. You may have a draught horse that has brawn and bone is strong, has depth of body and size to make good draught horse; but, if put on a scale, he may drop down below the weight I have said because he is thin in condition, and yet you may take that same horse and when he is properly fitted for show purposes he may weigh 150 lbs. or 200 lbs. heavier. It is a dangerous thing making standard of weights just in that way. The judge himself should know the minute he looks at a horse whether it has size, appearance, action and quality to fit him for any special class. What is necessary for judges at shows is to have in their minds the exact type of horse they should look for in order to be able to educate the people and show them in what classes they should exhibit their horses.

Clydesdales.

The General Purpose Class is one that always gives the judge more or less trouble. I would never give a prize for a general purpose stallion, and I would never advise anyone to breed much to one, although he may be a nice-looking horse and useful in some localities, because he is a misfit. He has no breeding behind him, and you do not know what kind of a colt you are going to get if you attempt to breed a mare to him. We have a lot of horses in this country that are very nice, useful horses, and many people like to drive a nice team of this sort because they will do a certain amount of work, and for that reason, some people think a good deal of them, but try, as far as possible, to breed heavier horses. You will get more from them.

The General Purpose horse should have a good head, nice carriage, neck, sloping shoulder, and round body, and be smooth-turned in every particular; rather

small, about half-way between the average carriage horse and average agricultural or light draught horse. It should be a horse that has good action, and formation, and the weight should be from about 1,150 to 1,350 lbs. under ordinary conditions. Some societies will accept General Purpose horses weighing 1,400 lbs., but others make the maximum 1,250 lbs.

ADDRESS.

C. F. Bailey, Assistant Deputy Minister of Agriculture, Toronto

I have listened with interest to the classification of the different horses. From experience I have had attending Fall Fairs throughout the Province I am led to believe that lack of classification is one of the drawbacks of our exhibitions.

With a view to learning something of the actual conditions, I had 200 prize lists from different parts of the Province mailed to me to look over them, and form some idea as to what prizes were given. I found that the weight ranged as follows:

Heavy draught horses, from 1,400 lbs. to 2,000 lbs.
Agricultural horses, 1,300 lbs.
General Purpose Horses, no more than 1,300 lbs.

In one case I found the classification of these latter was from 1,200 lbs. to 1,400 lbs., and draught horses from 1,600 lbs. and over. There was no class for horses from 1,400 lbs. to 1,600 lbs. at this show.

It would seem to me as though the size of draught horses depended upon the average size of the heavy horses in each district, *i.e.*, if the average horse was 1,400 lbs. the draught horse would be the same. In another district the average is from 1,600 lbs. to 2,000 lbs., and the draught 1,600 lbs.

You can readily understand when the judge coming from a district where they have horses weighing from 1,600 to 2,000 lbs. goes into another district where the average is 1,400 lbs., and the people enter them in the draught class, is going to get into trouble if he throws them out. You will find he cannot do this, because the prize list distinctly says "1,400 lbs. and over."

The judge is not always to blame, but at the same time we find them lacking in knowledge and uniformity.

We should not give prizes for General Purpose stallions. That is done all over the Province. The General Purpose stallion is a misfit. It is not pure-bred. He may be an undersized draught horse, and get into the General Purpose class, because he has clean looks. That is not desirable.

In some parts of this Province societies are paying prizes for grade bulls. We are sending Farmers' Institute speakers all over this Province, together with literature on pure-bred sires.

Where there are grade classes, there should be a class for four females and one pure-bred male. In reference to this lack of uniformity in horses, this Association should ask Mr. Wilson to get a number of prominent horse breeders of this Province to submit rules and regulations *re* the classification of horses throughout the Province, and have a supply mailed to the secretary of every society, and have them included in their prize lists. There would be no doubt in anyone's mind as to what a General Purpose, Draught, or Agricultural horse would be. All the judge has to do is to refer to the regulations, and this would do away with a great deal of friction and assist the judges in making their awards.

Grain, Sheaf and Fruit Exhibit.

Another matter is the advisability of bringing the judges of Ontario together with a view to securing greater uniformity in judging. The Province might be divided into two sections, and judges from the west brought to Guelph and from the East to Ottawa. Get the best experts on horses to instruct them, and explain the best types of our different breeds. In this way uniformity would be secured. Something of this kind would be very beneficial, and do a great deal towards making fairs a greater success.

The Superintendent was asked to arrange for a committee to meet and draw up rules and regulations for the classification of horses, the report of this committee to be sent to the secretaries of the agricultural societies so as to be a guide for the directors when preparing their prize lists.

VEGETABLE EXHIBITS AT FAIRS AND EXHIBITIONS.

W. J. Kerr, Woodroffe.

For many years fairs and exhibitions throughout the Province have been devoting time and money for the development of the live stock and seed growing industries, and have also included vegetables. I have been at many fairs where they have neglected the vegetable industry altogether. Every man throughout our country should grow enough fruits and vegetables for his own use, and it should be a work of the exhibitions to foster vegetable growing more than at present.

In our Province we have done much along that line, and those of you who have had an opportunity of visiting the Agricultural Exhibitions at Ottawa for the past two years would have seen a display there creditable to the vegetable growers. One of the reasons is a man may begin operations on four, five, or six acres of land and can make as much profit, if they are worked intelligently, as his neighbour can make from 100 acres in dairying or stock raising. We want to encourage this, and we believe directors of all associations are anxious that the attendance at exhibitions should be as large as possible.

We can very much assist the attendance by putting up exhibits that will interest a certain class of the visitors at these exhibitions, and we believe that vegetables are a line which which will interest the women of our country. I know in our exhibition halls we have a large percentage of women among the visitors, and we believe if our women attend the men will also.

I have had the honor of being connected with the Ontario Vegetable Growers' Association for some time, and the meetings of our Association have always been peaceful and quiet. That is largely due to the disposition of the food we live on. We are pleased to note in many sections the interest shown in this business by school garden and also field crop competitions. We believe the vegetable crops of this Province are becoming among the most important. Cities are growing and demanding more of such products. We see farmers being driven off their farms and gardeners being driven off their gardens by the growth of the cities further and further out. In our rural community we should do what we can to encourage the welfare of our country by encouraging the growth and exhibition of vegetables. Many of them we cannot exhibit because at the time of the exhibitions they are not seen at their best, but if the different associations throughout this Province would offer special inducements for the production of high class vegetables by our boys and girls, following along the lines that have been followed in different sections where school gardens have taken up this work, we will rear up a generation that in a few years time will be vegetable growers producing the very best and most valuable products they can possibly grow.

RURAL SCHOOL FAIRS.

F. C. Hart, B.S.A., Galt.

In the township of North Dumfries, Waterloo County, the Rural School Fair is the event of the year for the pupils. All summer is spent in preparation, and when school opens in the fall the setting of the date is looked forward to with keen expectation.

The fair was started here in 1909 by the local branch of the Department of Agriculture. Three schools participated that year. In 1911 and 1912 all the schools in the township, some ten in number, were included. The fair is held at one school one year and another the next, pupils and parents coming from all over the township.

Extracts from the circular sent out to the pupils in the spring will give an idea of the scheme:

North Dumfries Rural School Fall Fair, 1912.

The Fair this year is planned as in previous seasons, the prize list, however, being somewhat extended. The pupils will be given the seed of the crop chosen on the list, which they are to take home and sow according to directions. They shall also care for and harvest the crop and keep an account of the yield. The plots will be inspected during the summer and prizes given for the plots showing the most care and interest on the part of the pupil. Other prizes will be given according to the showing made at the Fair.

The seed of each crop will be from the one lot, so that all pupils will start fair as far as the seed is concerned. It will be noticed that the directions given below are sufficient only to make the competition equal for all. No directions as to the best way of growing crops are given, but there are many sources of information, and the boy or girl who learns the most about and gives the greatest care to his or her crop will likely have the best yields.

The eggs for hatching are from a laying strain of Plymouth Rocks from the Ontario Agricultural College. As we have but forty dozen for distribution, each school may have four dozen, and the teacher and pupils should decide which four pupils may have these. All chickens from these eggs are to be exhibited.

Rules.

1. Each pupil may make a choice of but one of classes 1 to 5. He or she may also enter any or all of the other classes.
2. The seed must be sown according to directions. Each plot must be marked off with stakes and must be the size required.
3. Whether the results are good or bad, each pupil taking seed must exhibit at the Fair.
4. Pupils may obtain help in plowing and otherwise preparing the ground, but, as far as possible, all work should be done by the pupils.
5. Keep a note-book in which to mark down dates of seeding, yield, and other items of interest about your plot.

Exhibits for which prizes were given included oats, barley, corn, potatoes; collection of weeds and weed seeds and of insects; collections of pioneer implements and Indian relics; poultry, colts, and calves; home-made bread. Prizes were also awarded for the best essays on subjects relating to the work of the summer.

Care was taken to obtain the best strains of seed, and the proper amounts were delivered to the schools in time for planting in the spring. During the summer we inspected each plot at the homes of the pupils. Then in the fall comes "Fair Day," when the pupils exhibit a certain amount from each plot in competition with others growing that crop, as well as the various nature collections, essays and live stock. Prominent persons are invited to do the judging and give a talk. During the morning, pupils and parents gather and arrange the exhibits; at noon

Standard-bred.

Prize-winning Carriage Team.

hour they lunch picnic style. While the judging is in progress sports are held, the prizes being little five and ten cent articles, and more for fun than fancy. And then comes the awarding of the real prizes, in cash, for the winners in exhibits. The speech of the judge closes a full and enjoyable day.

The financing of the fair is at present borne by the Department of Agriculture. The Department has a number of representatives stationed in various counties, and a dozen or more of these have conducted similar fairs this year.

Though education is the underlying reason of the fair, in our dealings with the pupils we have not emphasized the educational value to any extent. We simply get them growing things, or actually owning and caring for some farm animal, and the education naturally follows. We believe there is more real education in the continuous care of a growing crop or of a flock of chickens than in many a "lesson in school." Not only is knowledge acquired, but responsibility, application, resourcefulness, become essential to success. And they come unassociated with the idea of a lesson to be learned for the lesson's sake. They are the natural outcome of doing things—of living.

Fault has been found with our educational system, in that the great bulk of it is memory work; that pupils are not taught to think; that they are spoon-fed; that lessons are ready-made, and that the pupil has but to remember them till examination day. We have tried to avoid that difficulty by giving no cultural directions for growing the crops. For no class of people are there so many sources of information relating to his business as for the farmer, and the farm boy should acquaint himself with these sources. Or, if he does not do even this, he must at least think for himself. For instance, he finds, as happened this summer, that the potato tops are dying down long before they should, that the potatoes are not fully developed and are starting to rot. For a boy who has carefully planted and cultivated a promising crop, surely that is enough to make him think. His thinking leads to inquiry, and inquiry to knowledge. True, his crop is a partial failure this year, but he has learned most effectively how to handle a big difficulty. He has done some thinking on his own account.

It will be seen that we encroach very little upon the regular school hours. All of the work is done at home, and the already overburdened teacher is not asked to undertake another "fad." If the teacher so desires, however, he will find here much new and interesting material for the regular classes in Geography, Arithmetic, History, and Literature. Last year was sent out a circular-letter indicating a few of the ways in which the pupils' results could be so used. The advantage lies in the fact that the pupils are dealing with material with which they have a concrete knowledge and personal interest. It affords an opportunity to relate rural school education to life in the open country. To those of us who have been conducting these fairs, perhaps the most interesting and illuminating part is visiting the pupils and their work on the home farm. I wish I could put on paper the pride of achievement and feeling of power exhibited by these little people. One of the prize plots was that of a crop of oats. The boy had sown it in drills far enough apart to allow cultivation with a hoe; during the dry spell he had watered it; there was not a weed to be seen, and the oats were taller than himself. It was better oats than his father ever grew, and a creditable piece of work. But the best of it was that he seemed to realize that it was a man's work. His very walk indicated it, and as he went to the plot and talked about it, his manly bearing and grown-up talk, yet withal modest pride, indicated that his little achievement was helping to make a man of him. More than that, it was helping to make a farmer of him. More yet, a farmer proud of his work.

And the social aspect of the fair is an important feature. It is held in the country, with no city or town environment. Girls and boys take first place; it is their day. From one section comes a whole farm-wagon load of noisy, happy children, twenty of them crowded on a board. Here comes another with almost as many, and just as noisy. They come in buggies, on horseback, and on foot. And by noon-hour ten school sections are blended into one big hungry crowd, very much alive to the importance of the occasion. In the competitions, sports, and lunch no distinction is made as to school sections. It is Township Day, and, for the time being, all are just one big family having a good time, and "all their own." If you will encourage this work you will be doing a great deal to help agriculture of this Province with those whom you should interest more, viz., the boys and girls.

CHAS. O'REILLY: I am pleased with Mr. Hart's address. These school fairs will be good agricultural education for the children who take part in them. We had three exhibitions and they were all good.

F. C. HART: Most of the money in counties for carrying on school fairs has been taken from the county grant. We intend in future to interest the citizens in this movement, and we will be able to get a good deal more money from men who have public spirit and are willing to help us along. The Government, I believe, will also help us out. The work is giving such good results that if you can interest your local men there will be no difficulty in financing it. Last December I was in the State of Iowa with reference to this work, and I found their county fair practically had all the money subscribed by local merchants, manufacturers, etc., who were impressed with the value of it from a national point of view and were willing to put up the money. At the initial stages the Government and County Council so far has been supplying the money.

A MEMBER: How can you inspect the crops?

F. C. HART: The fairs have been carried on where there are district representatives, and we examine these crops ourselves. In our fair we had 120 people growing crops on farms, so that we inspected 120 plots. Sometimes two or three people would live at one place. The school garden idea is good, but this is much better, because school gardening during the summer is liable to be neglected, and when the pupils come back in the fall the gardens have run wild, and this is not a good object lesson for them; whereas if they do this work at home they can attend these plots practically every day in the year, and they are well taken care of.

W. HICKSON: We have had a couple of these fairs and are thinking of bringing them to one centre. Would it be a good thing to centralize them, or have them held in different districts?

F. C. HART: I much prefer the little ones, as I hope to develop this work in Waterloo. We will have at least six fairs in the county. I divide my county up according to the location of the schools, so as to take care of all the schools, six or seven in the county, as we are able to obtain the money. I like the little fair before we get the big one; then you can have your county fair. If you have your county well covered with little fairs it will be possible to hold a county one. Pupils are not so backward in the little fairs.

W. NOBLE: The public school readers instead of containing a lot of foolish matter should contain profitable information. We want scientific matter in our readers, so that boys and girls will know something about the country.

A vote of thanks was tendered to Mr. Hart for his address.

On the way to the fold.

Awaiting judges' decision.

THE BIG EXHIBITIONS AND THE SMALL FARMER.

Newton Wylie, Toronto.

Last fall in going through the Provinces and visiting the fall fairs I found that there was more to be observed than just the general ideas of the success of the fairs in the way of gate receipts and attendance.

For instance, at the Canadian National Exhibition, not aware that it was the custom to have prize money unchallenged, I was surprised and shocked at the number of uncoveted prizes enumerated in the books. The exhibits in nearly every class of live stock are fewer than last year, and the same is true of the various classes of farm products. In very few cases have the judges had any difficulty in making awards, and in a large number the prizes have gone by default. The case of the honey exhibits is perhaps the most astounding. Altogether there are eighteen classes of apiary products for which prizes to the amount of $341 are offered. As there are ten thousand persons actively engaged in bee-keeping from Pelee Island to Cobalt, it would seem reasonable to expect fairly keen competition. On the contrary, there is only one entry in all the apiary classes. This exhibitor entered in the entire eighteen, and has been awarded eighteen red tickets, amounting to $141. He had a very creditable exhibit, but his display was the only one in the honey corner of the Horticultural Building, and looks most unusual, being practically covered with red tickets and no blues or yellows to be seen. In the Province down by the sea, the different exhibition associations get out and hustle for entries. Owing to the remarkable success of the Toronto Exhibition in securing industrial exhibits, drawing features, and even increasing crowds, the matter of keeping up interest among farmers may have been neglected. The appointment of a man to go into the country during the early part of the summer, talking the advantages of showing at the Toronto Fair, and stimulating interest in competition among farmers, would have the effect of attracting a large number of exhibits, and as a result of the keen competition that would follow the quality of the stuff put up for show would be improved, and, incidentally, the whole agricultural industry benefited. In Nova Scotia, they do more than send out prize lists. The different rural communities are visited and farmers asked individually to enter. Many farmers come to Toronto Exhibition, and do not even see all the farm exhibits, let alone investigating the strength of the competition or what their chances would have been had they entered.

The professional growers and breeders of pure bred stock are about the only ones who show in the big exhibitions, as the small farmer, the man who has not pure bred stock nor expert horticultural knowledge by which to grow superior products, does not come because he does not stand any chance. The big fairs, in addition to having regular classes, should have separate ones for the small farmer, so that a man who had a good animal would be encouraged to enter.

I have a letter from the Canadian National Exhibition which I will read to you:

The Exhibition Board have given much consideration to the subject of your address, and several meetings of live stock men have been held to discuss methods of giving the small farmer a chance.

The only possible solution of the question seems to be an increase in the amount of prize money, the same to be applied, not to increasing the amount offered for first, second or third prizes, but to extending the list to give fourth, fifth, sixth, and in some cases seventh and eighth prizes.

This will give any exhibitor who has an animal of merit a chance to secure recognition, and enough cash to at least partially cover expenses of exhibiting.

The amount given in prizes has been increased to $5,000 for the dairy breeds, and $5,000 for the beef breeds, and the increase has been distributed proportionately to the number of entries and exhibitors in the different classes for the past three years. Consequently, the classes most widely bred get the greater part of it.

As you are doubtless aware, the stables are now being moved to the Garrison Commons, and are being modernly equipped.

However, the question you have in hand is a large one. It is a point on which the Canadian National has received much criticism, but few hints as to how conditions can be improved.

I hope you will give your time to the latter phase of the subject.

(Sgd.) J. K. Munro.

This Association would do well to consider this matter and the action they take will be in the interest of the small farmer.

A. C. Graham: We carried a resolution last year to limit the maximum Legislative Grants to any fair to $500. I would ask Mr. Wilson if the Government is likely to change the Act in that respect.

J. Lockie Wilson: The maximum grant to any agricultural society is $800. There were only three Societies in the whole Province of Ontario that got the maximum grant in 1912. The proposition last year was to have the Act changed so as to limit the maximum grant to $500. That passed this Convention, but the Department was not in favor of changing the Act every year, but if it is the unanimous wish of this Convention that the maximum be reduced to $500, the matter will be brought up again before the Minister for his consideration. As there are only three Societies getting the maximum grant, there is not much to worry about. There were only fifteen Societies which received grants exceeding $500 in 1912. If the amount saved by making $500 the maximum were divided among the other Societies, it would add only about $7 more to each Society's grant on an average.

Moved by J. D. Howden, seconded by Chas. O'Reilly, "That the Government be asked to set aside out of the $75,000 Federal grant a sum of $25,000 for the purpose of assisting in the educational work of the Ontario Agricultural Societies." Carried.

HOW TO SECURE WIDER INTEREST BY FARMERS AND CITIZENS GENERALLY IN THE WORK OF OUR FAIRS.

Dr. W. A. Crow, Chesley.

This subject is important, and is one that has been given a great deal of thought by leading agriculturists.

The critical time commences with our Annual Meeting when the Officers for the year are chosen. The Secretary, who is usually a permanent Officer, should be thoroughly conversant with his work, be able to take the initiative, introduce new ideas and practically be a leader for the Board of Directors, and, therefore, great care should be taken in his selection. The directors also should be carefully chosen, not particularly for their standing in the community but for their fitness and willingness to work.

Special attention should be given to the drafting of the prize list. Offer premiums for live stock and farm products that have proved to be best suited for the place in which your fair is held. Offer substantial prizes for the products of

boys and girls such as flowers, specimens of weeds, sheaves of grain, stalks of corn, writing, drawing, carving, manual training and such like. Prizes could also be offered for colts, calves, lambs, pigs and poultry cared for by the boys, also for eggs of different breeds.

Have the prize list printed and distributed early in the year—say in March, so that preparations can be made before seeding time, and if necessary, redistribute before the date of fair.

Winner at the Baby Show.

Get your directors to work early. Have them show the lists to neighbors, discuss the different sections of the prize list, and if possible, induce them to become exhibitors and members. An excellent idea is to offer prizes for the judging of live stock by the sons of members. The Department of Agriculture also encourages directors to hold banquets in order to develop interest among the members of a Society, and allows the expense of same to be counted as expenditure for agricultural purposes.

It is hardly necessary to say that no Society which does not offer substantial sums of money, or its equivalent in prizes, will for any length of time be successful in keeping interest in the fair. It is pleasing to get a prize, but the receipt of a cheque enhances the pleasure.

My observation has been that those societies which cut out special attractions, save those directly connected with agricultural work, have been the most successful. Of course, where people have been used to these attractions, it requires time to educate them to the point where they will go to the fair for the sole purpose of seeing what the country can produce in live stock, what the land can be made to grow in grain, roots and vegetables, what advancements are being made along manufacturing and industrial lines, the display in ladies' work as well as exhibits in dairy products. But the people can be educated to this point, and the directors who work along these lines carry out the provisions of the "Agricultural Societies Act" literally.

Get the public to know that your fair is managed in a business-like manner according to the rules and regulations, that every exhibitor gets a square deal, and that the directors are not doing the work as a money-making proposition, but in an honest endeavor to better the condition of the community in which the fair is held. When the citizens realize this, the hearty co-operation of all will follow.

ANNUAL FINANCIAL REPORTS.

G. DE W. GREEN, TORONTO.

Among the important duties of the Secretary and Treasurer of an Agricultural Society is the preparation of the Financial Report covering the receipts and expenditure of the Society during the period from January 1st to December 31st in each year, and mailing same to the Superintendent, when approved of by the members at the annual meeting within one month of date of same. On March 1st an affidavit has also to be sent in, sworn to by the Treasurer, as to actual cash expenditure for agricultural purposes as defined by the Act and stating the number of paid up members for the current year, and all returns, including a list of the officers elected at the annual meeting, and a list of paid up members for the current year, must be received by the Superintendent not later than March 1st. I lay stress on this point, because some Secretaries seem to think that these can be sent in as late as July 1st or even later, not considering that such neglect delays the apportionment of the grants to all the societies in the Province.

In a convention composed of such intelligent men as I see before me to-day, representing up-to-date societies, it is quite possible that the suggestions in this address may be unnecessary, inasmuch as those among you who are secretaries and treasurers are thoroughly posted in the method of making your returns in a form acceptable to the Department, but in a considerable number of the reports received each spring, there are errors discovered and the idea is to impress upon the officers of those societies the need of greater care in the preparation of their financial reports. Frequently items are omitted, columns will not add up and balances are incorrect.

Winter Fair, Guelph.

In the financial statement the first item under "Receipts" is "Balance on hand as per last Annual Report." It would seem a simple thing to carry forward a balance from year to year correctly, but here is where some treasurers fall down. One reason is that they do not follow the suggestions of the Superintendent and keep on file in their office an exact duplicate of the Financial Statement sent to the Department the year previous, for which purpose an extra form is always sent them; or if, in consequence of errors detected by the Department, corrections have been made, these have not been copied on the form retained by the treasurer. In other cases, the bank balance, in consequence of cheques issued not having been cashed, is larger than the balance as carried forward from the financial statement of the previous year and, to bring these into line, the treasurer gives the bank balance in his statement instead of the correct one. It sometimes happens that outstanding cheques are lost or never cashed. In such cases, if there is no probability of their being presented, the society should be credited with such amounts under "Receipts."

Admission Fees to Exhibition: This item is intended solely for cash taken at the gates for admission to the grounds, and no receipts from rent of space for stalls or for concert or grand stand should be included.

Receipts at Spring Fair and Expenditure at same: Some treasurers, owing to the fact that a special financial statement is sent to each Society holding a Spring Fair, have been in the habit of not including the receipts and expenditure at same in the Annual Financial Statement. The Spring Show is as much a part of the annual work of the Society as the Fall Fair, and all items in connection with it must be included in the year's transactions. The special form is sent to enable the officers to make the returns in connection with the Spring Fair within thirty days thereafter, as required by the Act, and thus receive the Legislative grant for same promptly.

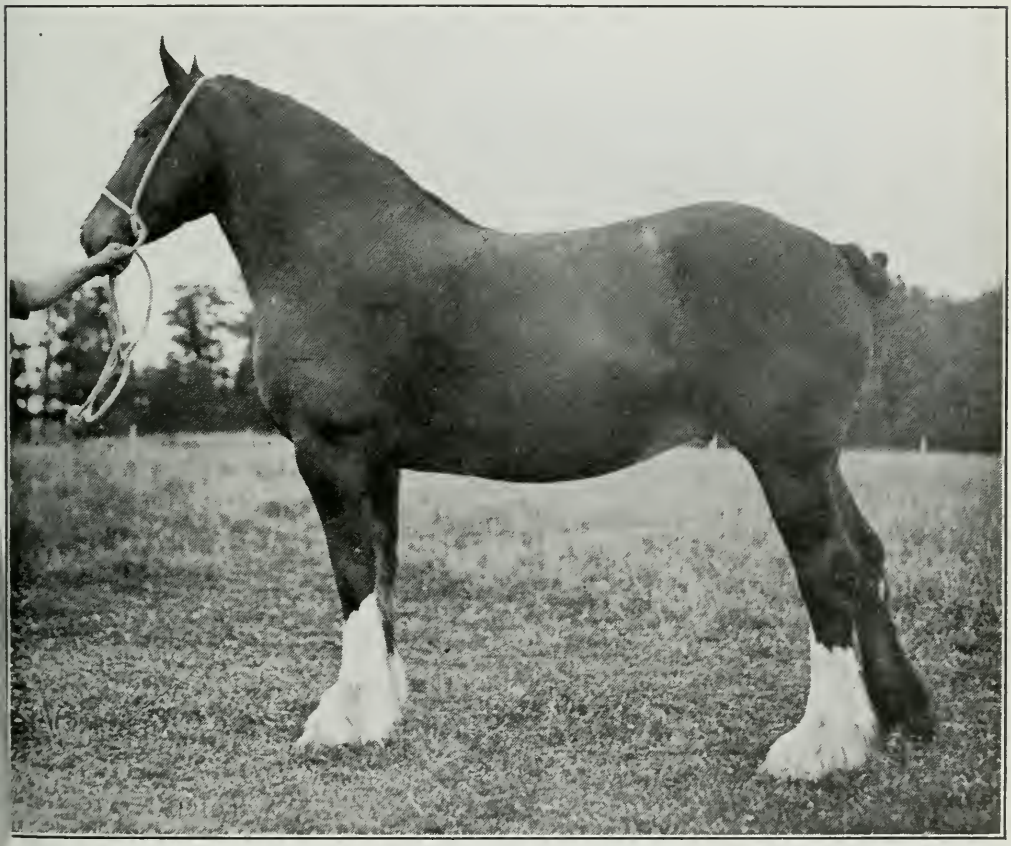
Total Cash Prizes paid at the Annual Exhibition: This is another item which is the cause of mistakes. The note attached states that the total must include membership fees retained out of prize money. For example, if the amount awarded by judges in all classes was $600, and the treasurer has paid all the exhibitors, retaining out of their prize money $150, the amount that should appear in the Financial Statement as total prize money should be $600, and not $450. If the treasurer charges up only $450, the society would lose the Legislative grant on the $150, which was not added to the total prize money. The money retained for membership fees also appears under receipts, so that the statement balances correctly when the above rule is carried out. It should not be necessary to add that in the total prize money only cash prizes should be included.

Some treasurers, apparently, consider that membership fees for the following year retained out of prize money should not appear in the Financial Statement until the next year. This, however, is not correct. The Financial Statement for any year should be a complete record of all the moneys received and spent during that period. There is a statement on the back of the form for assets and liabilities and these retained membership fees should appear under "Liabilities," inasmuch as if, for any cause, a society should go out of existence after retaining these fees, it would be incumbent on the treasurer to repay them to the members out of the moneys on hand.

A few societies—only a very few—take a discount of 15 per cent., 20 per cent., and even 40 per cent. off the prize money paid to exhibitors. Some only reserve the right to do this, and do not practice it, except in case of wet weather

when receipts have been reduced. In such cases this would be admissible; but others every year advertise a full list of prize money and then deduct the percentage. Would it not be more honorable to take this percentage off the prize list, and only advertise exactly what is intended to be paid? Of course, societies which discount the prize money paid out must enter only the net amount actually paid in the Annual Financial Statement.

At the foot of the Financial Statement is a certificate to be signed by the two auditors to the effect that they have carefully examined the treasurer's books and that the statement of receipts and expenditure as given above is correct and according to vouchers examined by them. In view of errors detected in many



Clydesdale.

of the Financial Statements sent in to the Department, there is good reason to doubt whether in some cases the auditors have even added up the columns, much less checked over the treasurer's books. The probability is that the suggestion of the Department that sufficient time be given the auditors to thoroughly check over the statement and books has been ignored and that just before the annual meeting, on the assurance of the treasurer that everything is correct, the auditors have affixed their names without properly looking over the statement to be presented to the meeting. It is only right and proper that auditors, recognizing the importance of their duties for the protection of the interests of all connected with an agricultural society, should do their work thoroughly and well.

No change must be made in the form of affidavit sworn to by the treasurer. The prize money entered up must be what has been paid in cash, the amount paid in prizes for Field Crop Competition must be that contributed by the society, not counting in the Government grant for same. The item for purchase of seed and plants is intended to cover these when they are distributed free to members only, not when they are purchased and sold, as they often are, at a profit. If sold at a loss, the deficit on such transaction can be included in the affidavit. A society employing Departmental Judges can include the amount paid for their services as expenditure for agricultural purposes.

American Beauty Oats.
Prize field in Crop Competition, B. Tolton, Guelph.

SCORING AND JUDGING EGGS.

Although, commercially, eggs have always been judged by comparison, it is quite difficult and indeed impossible to study them by the same comparative methods. This score card system has been created, primarily, for the purpose of teaching and studying the egg.

SCORE CARD FOR A DOZEN EGGS.

——	Maximum possible points.	1 doz.	2 doz.	3 doz.	4 doz.	5 doz.	6 doz.
Grade	.....	.....	.....	.....	.....	.....	.....
Shape	12	.....	.....	.....	.....	.....	.....
Color	12	.....	.....	.....	.....	.....	.....
Condition of shell	12	.....	.....	.....	.....	.....	.....
Appearance at candling	14	.....	.....	.....	.....	.....	.....
Yolk, quality of	25	.....	.....	.....	.....	.....	.....
White, quality of	25	.....	.....	.....	.....	.....	.....
Cut for disqualified eggs	.....	.....	.....	.....	.....	.....	.....
Cut for understandard weight	.....	.....	.....	.....	.....	.....	.....
Total cuts	.....	.....	.....	.....	.....	.....	.....
Final score	.....	.....	.....	.....	.....	.....	.....

Scoring and Judging One Dozen Eggs—Disqualifications.

Extremes in size and shape; very rough; freckled eggs in extras and firsts; dirty or cracked shells; badly spotted interiors; or eggs having a noticeably loose content.

The entire dozen is discarded when more than two eggs are disqualified.

Eggs weighing one-half ounce more or less than the average for that dozen shall be disqualified for extras and firsts.

When two or less eggs are disqualified, deduct from the final score or the dozen, eight points for each egg disqualified. A disqualified egg is not scored with the remainder of the dozen.

Scoring a Dozen of Eggs—Grades.

"Extras" (xxxx). Large and uniform in size and color, weighing 26-30 ounces per dozen, and scoring 90 points.

"Firsts" (xxx). Good size and uniform in size and color, weighing 24-26 ounces per dozen, and scoring 90 points.

Color.—The color should be uniform over the entire shell and throughout the dozen. The standard should be clear, pure white for white eggs and a rich, dark brown for brown eggs.

Condition of Shell.—The shell should be spotlessly clean and unsmeared or glossy from washing. It should be of uniformly firm condition throughout, not twisted or folded.

Appearance at Candling.—The contents should be clear and transparent, the yolk being scarcely perceptible. The air space should be very small. A large air space indicates greater age of the egg, except in water glass eggs.

An egg must necessarily be broken for scoring yolk and white.

Yolk.—The yolk should be a rich golden in color, and should keep its shape when opened into a saucer. It should show no spots, other than germinal disc, and should be of a sweet, agreeable odor.

White.—The white, or albumen, of the egg should be fresh, sweet, clear and viscous. The two layers of albumen should be of distinctly different consistency. The one very viscous, the other rather watery.

Scale of Cuts.

Shape (one point for each egg).—Cut to the limit in proportion to the defect, and then disqualify.

Color (one point for each egg).—Cut to the limit, in proportion to the defect, and then disqualify.

Condition of Shell (one point for each egg).—One-half point where wrinkled severely; one-half to two points where three or four or more are glossy; one-half point for each weak shell; one-half to one point for each soiled egg.

Candling.—Cut one-half point for each egg showing distinctly cloudy appearance.

Cut one point for each egg having unmistakable blood spots.

Cut one-quarter to one-half point for each egg showing large air space.

Quality of Yolk.—Five points for each spot on yolk, other than germ discs. Cut as high as ten points when odor is disagreeable. Cut as high as ten points when yolk flattens and breaks. Cut as high as five points on pale color.

Quality of White.—Cut as high as fifteen points where the two albumens approach the same consistency. Cut as high as five points where albumen will not hold up the yolk.

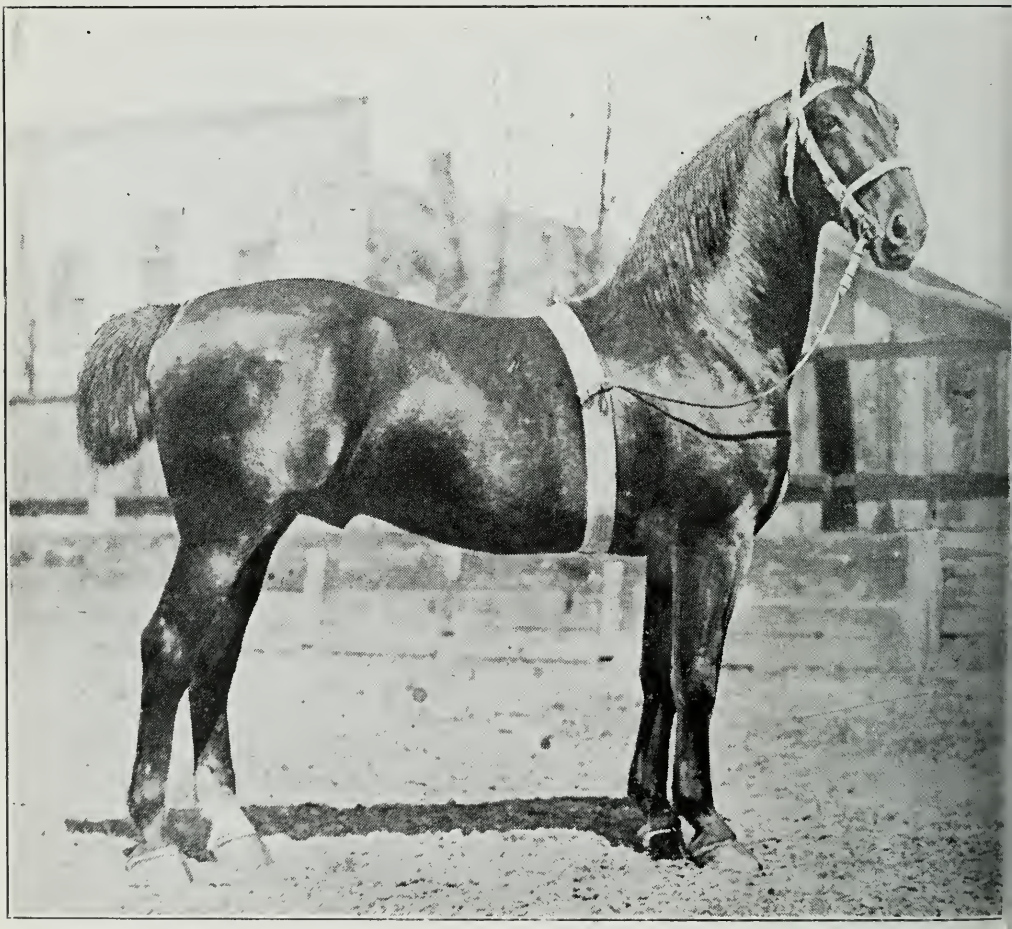
Cut one-half point for each one-half ounce in weight under the standard weight of the grade for the dozen. Cut eight points for each disqualified egg.

The largest and most enthusiastic convention ever held was brought to a close by the singing of the National Anthem.

REPORT OF COMMITTEE ON PROPER CLASSIFICATION OF HORSES AT FAIRS AND EXHIBITIONS, 1913.

At the Annual Convention of the Ontario Association of Fairs and Exhibitions a resolution was passed authorizing the Superintendent to select a committee to arrange for the proper classification of horses at Fairs and Exhibitions.

The Committee composed of Messrs. Robt. Graham, H. G. Reed, John Gardhouse, C. F. Bailey and J. Lockie Wilson met on February 17th and drew up the following regulations:



Carriage Stallion.

Heavy Draft: Heavy draft horses should conform in type to the breed which they represent. A matured animal should weigh 1,500 lbs. and upwards.

Agricultural: An agricultural horse should conform closely in type to draft horses but on a smaller scale, and should weigh from 1,350 to 1,500 lbs.

General Purpose: No Agricultural Society should offer prizes for general purpose stallions at exhibitions, but, if thought advisable, prizes might be offered for general purpose mares, fillies or geldings. General purpose horses should

conform in outline closely to the coach, carriage or hunter type, but should be larger and stronger and able to do satisfactory work in wagon, plow, buggy and saddle. They should be clean limbed, without excessive hair on the legs, and be able to travel seven miles per hour. Horses showing draft conformation should not be included in this class. They should weigh from 1,150 to 1,350 lbs. The minimum height of general purpose horses should be 15.3 hands.

Carriage: There should be separate classes for carriage horses and roadsters at every exhibition, and these two breeds should not be shown in the same class. In judging carriage horses, style, conformation, and action must all be considered. The minimum height of the animals should be 15.1 hands.

Roadster: Roadsters should be judged in every case for conformation, style and speed.

Saddle Horses: In the saddle class horses should be tested in walking, trotting and cantering.

Ponies: The maximum height of all classes of ponies, except polo, should be 14 hands. Shetland ponies should not exceed 12.3 hands.

TIME SAVING FAIR BOOKS.

The New Canadian Fair Record Book.

This book is an index, ledger and entry fee book combined in one. Its use will insure accuracy, time saving and enable prompt settlements to be made with the Exhibitors.

First.—On receipt of Entry Sheet enter in Column (1) the Exhibitor's number; name and address in Column (2) and the amount of the entry fees in Column (3). If the fees are not remitted with the entry sheet leave amount blank and note same in the remarks Column (7) until paid.

Second.—Mark on the right hand corner of the entry sheet the number assigned to the Exhibitor.

Third.—When the awards have been made and posted in the Entry Book, credit the exhibitors in the Record Book, opposite their respective names, and carry totals to Column (5).

Fourth.—When payments are made mark paid in Column (5). If payments are made by cheque enter the number of the cheque.

These sheets are made up in books 15 x 14, 50 pages, bound with cloth back and marble paper sides. Price $1.50 and can be procured from P. W. Rogers, City Hall, Toronto.

RECORD BOOK

1	2	3	4								5	6	7
Exhibitor's No.	Name and Address,	Fees.	Awards.								Total.	Cheque No.	Remarks.
			Class	Amount	Class	Amount	Class	Amount	Class	Amount			
		$ c.		$ c.		$ c.		$ c.		$ c.			
2	James Smith, Carp P.O.....	3 50	2	40 00	10	10 00					50 00	10	Hold protest
3	Geo. Russell, Barrie	5 00	2	30 00	10	20 00					50 00	15	Hold for fees
4	Wm. Sharp, Acton.....	6 75	2	20 00	10	15 00					35 00	20	

ENTRY BOOK.

1	2	3	4					5	6	7	8	9
Class and Section.	Description and Exhibitor's Number.	Total Entries.	Awards.					Offered. by Fair.	Paid by Fair.	Specials.	Specials paid.	Remarks.
			1	2	3	4	5					
			$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
2	Hackney Stallion, 2 years.		40 00	30 00	20 00	15 00	10 00	115 00		20 00		
	2 3 4 5 6 7 9 11	8	2		3		4		90 00		20 00	
10	Ayrshire Bull, 2 years.		20 00		15 00		10 00	5 00	50 00			
	3 4 2 9 11 6	6	3		4		2		45 00			

Entry Book

Its use will give a complete record of the number of entries, awards, amount of Prize money offered and the total amount of Premiums paid.

First.—Before the opening day of the fair, or previous to receiving entries, copy the Prize List into the entry book, entering class and section in Column (1), a description of the animals or articles in Column (2), the amount offered for each prize in Column (4), the total amount offered by the Fair Association in Column (5), and any specials in Column (7); if required, note in Column (9) the name of the individual giving such special prizes.

The book is now ready to register entries.

Second.—When all the entries are in and the entry sheets recorded in the Record Book and numbered, enter the Exhibitor's Record number in Column (2), immediately under the description of the Animal or Article for which the entry is made. If an Exhibitor makes more than one entry in a Class enter in red ink the extra number of entries above the Exhibitor's number.

Third.—As soon as the awards are made enter from the Judges' Book or card in Column (4) under the respective Prizes, the record number of the Exhibitor to whom the award was made.

Fourth.—When the posting of awards is completed in the Entry Book, credit the Exhibitor in the Record Book with the amounts awarded to him. You will then have each Exhibitor's account complete and ready to make payment. You will be well advised to have the Exhibitor make up a list of winnings for comparison before paying.

Fifth.—At the close of the Fair, fill in Columns (3), (5) and (6), total each page, keeping the grand totals of each Department separate. These totals will be ready to make up the statement required by the Ontario Department of Agriculture.

Make a few imaginary entries on the sheets and you will be convinced of the simplicity and accuracy of the system.

These sheets are made up in books 15 x 14, 50 pages, bound with cloth back and marble paper sides. Price, $1.50.

COMPARATIVE STATEMENT OF GRANTS TO AGRICULTURAL SOCIETIES FOR 1912 AND 1913.

	1912.	1913.
ALGOMA:		
Bruce Mines	$125 00	$135 00
Central Algoma	728 00	688 00
Iron Bridge	57 00	54 00
Johnston & Aberdeen	75 00	84 00
North Shore	100 00	101 00
St. Joseph Island	117 00	138 00
Thessalon	161 00	170 00
BRANT:		
Onondaga	142 00	133 00
Paris	403 00	390 00
South Brant	479 00	461 00
BRUCE:		
Arran & Tara	340 00	329 00
Carrick	191 00	198 00
Chesley	235 00	224 00
Eastnor	110 00	120 00
Hepworth	196 00	180 00
Huron Tp.	212 00	218 00
Kincardine	116 00	117 00
Lucknow	205 00	190 00
N. Bruce & Saugeen	247 00	219 00
Northern	227 00	207 00
Paisley	268 00	242 00
Pinkerton	**121 00**	**107 00**
Teeswater	219 00	226 00
Tiverton	127 00	127 00
Underwood	174 00	166 00
Wiarton	148 00	163 00
CARLETON:		
Carleton Co.	399 00	401 00
Carp	314 00	302 00
Fitzroy	147 00	148 00
Metcalfe	351 00	312 00
DUFFERIN:		
Dufferin	**248 00**	**255 00**
Dufferin Central	309 00	313 00
East Luther	215 00	219 00
DUNDAS:		
Dundas	146 00	95 00
Mountain	200 00	202 00
Winchester	302 00	316 00
DURHAM:		
Cartwright	151 00	147 00
Millbrook	350 00	322 00
Orono	201 00	205 00
Port Hope	235 00	228 00
West Durham	409 00	409 00
ELGIN:		
Aldboro	247 00	245 00
East Elgin	251 00	298 00
Shedden	70 00	68 00
South Dorchester	172 00	168 00
Straffordville	**100 00**	**95 00**
West Elgin	354 00	358 00
ESSEX:		
Amherstburg, Anderdon & Marden	154 00	156 00
Colchester, South	205 00	191 00
Comber	126 00	129 00
Essex County	579 00	579 00
Mersea, Leamington & S. Gosfield	380 00	380 00
Windsor	302 00	533 00
FRONTENAC:		
Frontenac	149 00	130 00
Kennebec	50 00	42 00
Kingston Tp.	183 00	199 00
Parham	76 00	72 00
Storrington	86 00	82 00
Wolfe Island	83 00	77 00
GLENGARRY:		
Glengarry	243 00	225 00
Kenyon	203 00	197 00
St. Lawrence Valley	274 00	288 00
GRENVILLE:		
Kemptville	248 00	211 00
Merrickville	230 00	223 00
South Grenville	252 00	207 00
Spencerville	135 00	136 00
GREY:		
Ayton	132 00	136 00
Collingwood Tp.	167 00	167 00
Desboro	153 00	157 00
East Grey	147 00	137 00
Egremont	155 00	147 00
Hanover, Bentinck & Brant	144 00	142 00
Holland	106 00	118 00
Keppel	81 00	86 00
Kilsyth	219 00	217 00
Markdale	135 00	142 00
Meaford & St. Vincent	184 00	175 00
Normanby	103 00	98 00
Osprey	150 00	140 00
Owen Sound	295 00	322 00
Priceville	108 00	103 00
Proton	180 00	187 00
Rocklyn	149 00	151 00
South Grey	189 00	192 00
Sydenham	116 00	100 00
Walter's Falls	149 00	153 00
HALDIMAND:		
Caledonia	461 00	495 00
Canboro	44 00	48 00
Dunnville	189 00	180 00
Haldimand	233 00	224 00
Southern Branch	116 00	109 00
Walpole	192 00	180 00
HALIBURTON:		
Glamorgan	44 00	40 00
Haliburton	126 00	138 00
Minden	150 00	161 00
HALTON:		
Esquesing	234 00	237 00
Halton	403 00	388 00
Nassagaweya	123 00	.....
Nelson & Burlington	157 00	189 00
Trafalgar	291 00	268 00
HASTINGS:		
Bancroft	132 00	131 00
Belleville	326 00	351 00
Frankford	325 00	326 00
Madoc	233 00	206 00
Marmora	159 00	159 00
Maynooth	43 00	48 00

COMPARATIVE STATEMENT OF GRANTS.—*Continued.*

	1912.	1913.
HASTINGS.—*Continued.*		
Shannonville	113 00	114 00
Stirling	178 00	198 00
Tweed	263 00	247 00
Wollaston	67 00	78 00
HURON:		
Bayfield	114 00	111 00
Blyth	160 00	164 00
Dungannon	147 00	137 00
East Huron	224 00	217 00
Exeter	215 00	206 00
Howick	139 00	137 00
Seaforth	205 00	199 00
South Huron (Spring Fair only)	.....	.....
Turnberry	204 00	215 00
West Huron	245 00	249 00
Zurich	123 00	123 00
KENORA:		
Dryden	216 00	246 00
Kenora	.....	200 00
KENT:		
Camden	133 00	125 00
East Kent	229 00	219 00
Harwich	200 00	202 00
Howard	344 00	331 00
Orford	256 00	247 00
Raleigh & Tilbury	163 00	170 00
Romney	124 00	130 00
Wallaceburg	137 00	125 00
West Kent	388 00	361 00
LAMBTON:		
Bosanquet	144 00	155 00
Brooke & Alvinston	289 00	272 00
East Lambton	313 00	284 00
Florence	136 00	151 00
Forest	189 00	186 00
Moore	288 00	279 00
Petrolea & Enniskillen	365 00	366 00
Plympton & Wyoming	162 00	163 00
Sombra	149 00	128 00
West Lambton	412 00	388 00
LANARK:		
Dalhousie	153 00	121 00
Lanark Tp.	181 00	135 00
Lanark Village and Bathurst	223 00	234 00
Maberly	97 00	75 00
North Lanark	687 00	640 00
Pakenham	179 00	172 00
South Lanark	398 00	382 00
LEEDS:		
Brockville	800 00	757 00
Delta	232 00	229 00
Frankville	214 00	203 00
Lansdowne	195 00	184 00
Lombardy	107 00	106 00
North Crosby	87 00	73 00
Rear of Leeds & Lansdowne	67 00	56 00
LENNOX AND ADDINGTON:		
Addington	75 00	54 00
Amherst Island	140 00	140 00
Centreville	90 00	84 00
Ernestown	75 00	84 00
Lennox	336 00	321 00
LINCOLN:		
Abingdon	87 00	75 00
Clinton	200 00	193 00
Monck	96 00	52 00
Niagara Town & Tp.	131 00	119 00
Peninsula Central	98 00	105 00
MANITOULIN:		
Billings	214 00	257 00
Gore Bay	345 00	360 00
Howland	125 00	130 00
Manitowaning	148 00	170 00
Providence Bay	109 00	126 00
MIDDLESEX:		
Caradoc	99 00	104 00
Delaware	119 00	136 00
Dorchester	190 00	200 00
East Middlesex	100 00	100 00
London Tp.	120 00	121 00
McGillivray	58 00	69 00
Mosa & Ekfrid	198 00	202 00
Melbourne	.....	170 00
North Middlesex	140 00	138 00
Parkhill	144 00	130 00
Strathroy	558 00	520 00
Thorndale	143 00	124 00
Westminster	131 00	119 00
MUSKOKA:		
Baysville	107 00	118 00
Gravenhurst and Muskoka	266 00	285 00
Medora & Wood	174 00	200 00
Morrison	81 00	82 00
North Muskoka	368 00	361 00
South Muskoka	790 00	800 00
Stephenson & Watt	237 00	238 00
Stisted	152 00	151 00
NIPISSING:		
Astorville	125 00	129 00
Bonfield	143 00	132 00
Charlton	81 00	148 00
East Nipissing	361 00	357 00
Englehart	132 00	47 00
New Liskeard	395 00	424 00
Sturgeon Falls	281 00	226 00
Verner	213 00	232 00
NORFOLK:		
Charlotteville	184 00	172 00
Courtland	91 00	85 00
Houghton	117 00	111 00
Norfolk Co.	631 00	613 00
North Walsingham	125 00	125 00
Townsend	106 00	92 00
Windham	106 00	104 00
NORTHUMBERLAND:		
Alnwick	156 00	146 00
Brighton	167 00	161 00
Cobourg, Central	384 00	364 00
Colborne	290 00	269 00
Cramahe	178 00	160 00
Percy Tp.	360 00	354 00
Seymour	249 00	213 00
South Monaghan	63 00	.....
Wooler	102 00	98 00
ONTARIO:		
Beaverton	165 00	167 00
Brock	225 00	243 00

COMPARATIVE STATEMENT OF GRANTS.—*Continued.*

	1912.	1913.
ONTARIO.—*Continued.*		
Port Perry, Reach & Scugog	109 00	126 00
Ramona	35 00	35 00
Scott	141 00	138 00
South Ontario	475 00	466 00
Uxbridge	257 00	222 00
OXFORD:		
Drumbo	320 00	320 00
East Missouri	62 00	70 00
Ingersoll, N., & W. Oxford	183 00	172 00
North Norwich	207 00	204 00
South Norwich	174 00	167 00
Tavistock	242 00	238 00
Tillsonburg & Dereham	250 00	246 00
West Zorra & Embro.	149 00	141 00
Woodstock	495 00	499 00
PARRY SOUND:		
Armour, Ryerson and Burk's Falls	473 00	463 00
Christie	101 00	100 00
Loring	179 00	189 00
Machar	214 00	200 00
Magnetawan	195 00	218 00
McKellar	248 00	279 00
McMurrich	218 00	250 00
Parry Sound	366 00	334 00
Perry	265 00	280 00
Powassan	275 00	276 00
Rosseau	126 00	130 00
Strong	226 00	247 00
United Tps.	140 00	138 00
PEEL:		
Albion & Bolton	296 00	302 00
Caledon	218 00	206 00
Cooksville	210 00	218 00
Peel	463 00	447 00
Toronto, Gore (Spring Fair only)	.....	.....
Toronto Tp.	299 00	325 00
PERTH:		
Elma	145 00	136 00
Fullarton, Logan and Hibbert	245 00	251 00
Kirkton	165 00	166 00
Listowel	214 00	190 00
Mornington	200 00	194 00
South Perth	207 00	203 00
Stratford	314 00	296 00
PETERBOROUGH:		
East Peterborough	418 00	387 00
Galway	58 00	57 00
Lakefield	129 00	129 00
Otonabee	151 00	138 00
Peterboro' Industrial.	584 00	602 00
PRESCOTT:		
Alfred	123 00	111 00
South Plantagenet	118 00	107 00
Vankleek Hill	360 00	360 00
PRINCE EDWARD:		
Ameliasburg	160 00	166 00
Prince Edward	507 00	493 00
Sophiasburg	110 00	116 00
RAINY RIVER:		
Emo	290 00	340 00
RENFREW:		
Arnprior	178 00	232 00
Cobden	191 00	187 00
North Renfrew	412 00	381 00
Renfrew	608 00	633 00
RUSSELL:		
Casselman	63 00	60 00
Clarence	94 00	83 00
Russell	214 00	217 00
SIMCOE:		
Alliston	144 00	130 00
Barrie	462 00	447 00
Beeton	250 00	225 00
Bradford and West Gwillimbury	220 00	224 00
Coldwater	169 00	108 00
Cookstown	273 00	261 00
East Simcoe	.....	.....
Flos Tp.	215 00	201 00
Nottawasaga & Great Northern	282 00	250 00
Oro	175 00	177 00
Tiny and Tay	217 00	220 00
STORMONT:		
Cornwall	250 00	254 00
Finch	82 00	77 00
Roxborough	143 00	132 00
Stormont	150 00	134 00
SUDBURY:		
Massey	321 00	313 00
Warren	167 00	193 00
TEMISKAMING:		
Matheson	.....	97 00
THUNDER BAY:		
Oliver	296 00	299 00
West Algoma	800 00	800 00
Whitefish Valley	120 00	71 00
VICTORIA:		
Eldon	160 00	148 00
Fenelon	132 00	138 00
Mariposa	114 00	114 00
North Victoria	70 00	59 00
South Victoria	744 00	724 00
Verulam	209 00	188 00
WATERLOO:		
Elmira & Woolwich	153 00	143 00
S. Waterloo	494 00	486 00
Wellesley & N. Easthope	230 00	223 00
Wilmot	215 00	199 00
WELLAND:		
Bertie	244 00	239 00
Fenwick	182 00	235 00
Stamford and Niagara Falls	189 00	185 00
Thorold Town & Tp.	151 00	154 00
Wainfleet	80 00	73 00
Welland	331 00	314 00
WELLINGTON:		
Arthur	177 00	167 00
Centre Wellington	337 00	318 00
Erin	354 00	349 00

COMPARATIVE STATEMENT OF GRANTS.—*Continued.*

	1912.	1913.
WELLINGTON.—*Continued.*		
Guelph & S.Wellington	.....	800 00
Maryborough	96 00	87 00
Mount Forest	322 00	310 00
Palmerston	116 00	115 00
Peel & Drayton	149 00	147 00
Puslinch	183 00	170 00
Rockwood	184 00	177 00
West Garafraxa	118 00	116 00
West Wellington	168 00	163 00
WENTWORTH:		
Ancaster	179 00	157 00
Binbrook	97 00	85 00
Glanford	76 00	.....
Rockton	322 00	333 00
South Wentworth	229 00	343 00
Waterdown	204 00	210 00
West Flamboro	136 00	137 00
YORK:		
Markham	790 00	755 00
Newmarket	506 00	468 00
Queensville	136 00	134 00
Richmond Hill	185 00	181 00
Scarboro	331 00	294 00
Schomberg	295 00	281 00
Sutton	128 00	140 00
W. York & Etobicoke.	311 00	272 00
Woodbridge	572 00	545 00
Totals	$73,117 00	73,168 00

SPECIAL GRANTS TO SOCIETIES IN THE DISTRICTS.

	1912.	1913.
ALGOMA:		
Bruce Mines	$100 00	$80 00
Central Algoma	100 00	100 00
Iron Bridge	52 00	32 00
Johnston and Aberdeen	67 00	49 00
North Shore	87 00	60 00
St. Joseph Island	100 00	82 00
Thessalon	100 00	100 00
FRONTENAC:		
Kennebec	89 00	50 00
Parham	.....	85 00
HALIBURTON:		
Glamorgan	40 00	24 00
Haliburton	100 00	82 00
Minden	100 00	96 00
HASTINGS:		
Bancroft	100 00	100 00
Maynooth	77 00	56 00
Wollaston	100 00	93 00
KENORA:		
Dryden	100 00	100 00
Kenora	.....	100 00
MANITOULIN:		
Billings	100 00	100 00
Gore Bay	100 00	100 00
Howland	100 00	77 00
Manitowaning	100 00	100 00
Providence Bay	95 00	75 00
MUSKOKA:		
Baysville	93 00	70 00
Gravenhurst and Muskoka	100 00	100 00
Medora and Wood	100 00	100 00
Morrison	72 00	49 00
North Muskoka	100 00	100 00
South Muskoka	100 00	100 00
Stephenson and Watt.	100 00	100 00
Stisted	100 00	90 00
NIPISSING:		
Astorville	100 00	77 00
Bonfield	100 00	78 00
Charlton	59 00	88 00
East Nipissing	100 00	100 00
Englehart	69 00	100 00
New Liskeard	100 00	100 00
Sturgeon Falls	100 00	100 00
Verner	100 00	100 00
PARRY SOUND:		
Armour, Ryerson and Burk's Falls	100 00	100 00
Christie	.....	48 00
Loring	100 00	100 00
Machar	100 00	100 00
Magnetawan	100 00	100 00
McKellar	100 00	100 00
McMurrich	100 00	100 00
Parry Sound	100 00	100 00
Perry	100 00	100 00
Powassan	100 00	100 00
Rosseau	100 00	77 00
Strong	100 00	100 00
United Townships	100 00	82 00
RAINY RIVER:		
Emo	100 00	100 00
SUDBURY:		
Massey	100 00	100 00
Warren	100 00	100 00
THUNDER BAY:		
Oliver	100 00	100 00
West Algoma	100 00	100 00
Whitefish Valley	.....	100 00
Totals	$5,000 00	5,000 00

GRANTS TO SPRING FAIRS.—1913.

Stallion Shows, 1913, $1,300.00.

Dunnville (for 1912)	$22 00
Wellesley and N. Easthope	50 00
Wilmot	50 00
Kincardine	50 00
Elmira and Woolwich	50 00
Carrick	50 00
South Perth	24 00
Erin	50 00
Tavistock	50 00
Mount Forest	48 00
Dufferin, Central	50 00
West Flamboro	24 00
Mornington	31 00
Palmerston	40 00
Stratford	50 00
Dufferin	50 00
Guelph and S. Wellington	50 00
Listowel	40 00
Arthur	50 00
South Victoria	50 00
Forest	50 00
East Luther	50 00
Dunnville (for 1913)	20 00
Peel Co.	50 00
Wallaceburg	23 00
North Renfrew	15 00
Collingwood Tp.	15 00
West Kent	50 00
Meaford and St. Vincent	50 00
Esquesing	50 00
Walpole	6 00
Proton	42 00
	$1,300 00

Stallion and Bull Shows, 1913, $555.00.

Metcalfe	$36 00
South Huron	50 00
Paris	45 00
Tiverton	44 00
Woodstock	35 00
Seaforth	50 00
Weston, York and Etobicoke	50 00
Barrie	50 00
Fullerton, Logan and Hibbert	50 00
Comber	10 00
Arran and Tara	49 00
Nottawasaga and G. Northern	36 00
Toronto, Gore	50 00
	$555 00

Seed Fairs, 1913, $178.00.

Verulam	$18 00
South Huron	13 00
Richmond Hill	14 00
Englehart	25 00
Barrie	25 00
Metcalfe	10 00
Centre Wellington	25 00
Carrick	25 00
Whitefish Valley	17 00
Woodstock	6 00
	$178 00

GRANTS TO SOCIETIES OWNING PURE-BRED STOCK.—1913.

Colchester, North	$170 00	Oldcastle	380 00
Drummond	80 00	Osgoode	110 00
Dummer and Douro	280 00	South Woodslee	680 00
Emily	130 00	Verulam	60 00
Kenora	20 00		
Lakehurst	150 00	Total	$2,060 00

SPECIAL GRANTS.

Indian Societies.	1912	1913
	$	$
Muncey–Tecumseh	75 00	.....
Six Nations	100 00	100 00
United Indian	125 00	125 00
	300 00	225 00

GRANTS TO THE CENTRAL CANADA EXHIBITION AND WESTERN FAIRS.

—	1912	1913
	$	$
Central Canada	1,280	1,305
Western Fair	1,220	1,195
	2,500	2,500

LEGISLATIVE GRANTS TO AGRICULTURAL SOCIETIES WHICH HELD FIELD CROP COMPETITIONS IN 1912.

ALGOMA:	
Bruce Mines	$50 00
Central Algoma	50 00
North Shore	50 00
St. Joseph Island	50 00
Thessalon	50 00
BRANT:	
Onondaga	50 00
Paris	50 00
Six Nations	50 00
BRUCE:	
Carrick	50 00
Chesley	50 00
Eastnor	50 00
Hepworth	50 00
HURON TP	50 00
Lucknow	50 00
Pinkerton	50 00
Teeswater	50 00
Wiarton	50 00
CARLETON:	
Carleton	50 00
Fitzroy	50 00
DUFFERIN:	
Dufferin	50 00
Dufferin, Central	50 00
East Luther	50 00
DUNDAS:	
Mountain	50 00
Winchester	50 00
DURHAM:	
Cartwright	50 00
Millbrook	50 00
Orono	50 00
Port Hope	50 00
West Durham	50 00
ELGIN:	
Aldborough	50 00
Shedden	50 00
S. Dorchester	50 00
W. Elgin	50 00
ESSEX:	
Comber	50 00
Essex	50 00
S. Woodslee	50 00
Windsor	50 00
FRONTENAC:	
Kingston Tp.	50 00
GLENGARRY:	
Kenyon	50 00
St. Lawrence Valley	50 00
GREY:	
Ayton	50 00
Collingwood Tp.	50 00
Desboro	50 00
Keppel	50 00
Kilsyth	50 00
Normanby	50 00
Osprey	50 00
Proton	50 00
Rocklyn	50 00
S. Grey	50 00
Walter's Falls	50 00
HALDIMAND:	
Caledonia	50 00
Southern Branch	50 00
Walpole	50 00
HALTON:	
Halton	50 00
Nelson and Burlington	50 00
HASTINGS:	
Frankford	50 00
Madoc	50 00
Maynooth	50 00
Stirling	50 00
Wollaston	50 00
HURON:	
Blyth	50 00
East Huron	50 00
Exeter	50 00
Howick	50 00
Seaforth	50 00
KENORA:	
Dryden	50 00
KENT:	
Harwich	50 00
Howard	50 00
Orford	50 00
Raleigh and Tilbury	50 00
Wallaceburg	50 00
West Kent	50 00
LAMBTON:	
Bosanquet	50 00
Florence	50 00
Petrolia and Enniskillen	50 00
Sombra	50 00
LANARK:	
S. Lanark	50 00
LEEDS:	
Lansdowne	50 00
LENNOX:	
Lennox	50 00
LINCOLN:	
Clinton	50 00
Peninsular, Central	50 00
MIDDLESEX:	
Caradoc	50 00
Dorchester	50 00
E. Middlesex	50 00
Mosa and Ekfrid	50 00
N. Middlesex	50 00
Strathroy	50 00
Westminster	50 00
MUSKOKA:	
Gravenhurst	50 00
Medora and Wood	50 00
South Muskoka	50 00
Stephenson and Watt	50 00
NIPISSING:	
Charlton	50 00
Englehart	50 00
New Liskeard	50 00
Verner	50 00
NORFOLK:	
North Walsingham	50 00
NORTHUMBERLAND:	
Wooler	50 00
ONTARIO:	
Beaverton	50 00
OXFORD:	
Ingersoll, N., and W. Oxford.	50 00
South Norwich	50 00
Tillsonburg and Dereham	50 00
W. Zorra and Embro	50 00

LEGISLATIVE GRANTS TO AGRICULTURAL SOCIETIES.—*Continued.*

PARRY SOUND:	
Armour, Ryerson and Burk's Falls	50 00
Machar	50 00
Magnetawan	50 00
McMurrich	50 00
Perry	50 00
Powassan	50 00
Strong	50 00
PEEL:	
Albion and Bolton	50 00
Peel	50 00
Toronto Tp.	50 00
PERTH:	
Kirkton	50 00
South Perth	50 00
PETERBOROUGH:	
Otonabee	50 00
Peterborough, Industrial	50 00
PRESCOTT:	
Alfred	50 00
PRINCE EDWARD:	
Ameliasburg	50 00
Prince Edward	50 00
Sophiasburg	50 00
RAINY RIVER:	
Emo	50 00
RENFREW:	
Arnprior	50 00
Cobden	50 00
North Renfrew	50 00
Renfrew	50 00
RUSSELL:	
Russell	50 00
SIMCOE:	
Barrie	50 00
East Simcoe	50 00
Nottawasaga and G. Northern	50 00
Tiny and Tay	50 00
SUDBURY:	
Warren	50 00
THUNDER BAY:	
Oliver	50 00
VICTORIA:	
Eldon	50 00
Fenelon	50 00
Verulam	50 00
WATERLOO:	
South Waterloo	50 00
WELLAND:	
Bertie	50 00
Fenwick	50 00
Welland	50 00
WELLINGTON:	
Centre Wellington	50 00
Erin	50 00
Mt. Forest	50 00
Puslinch	50 00
WENTWORTH:	
Waterdown	50 00
West Flamboro	50 00
YORK:	
Markham	50 00
Newmarket	50 00
Richmond Hill	50 00
Scarboro	50 00
Schomberg	50 00
Woodbridge	50 00
	$7,650 00

GRANTS TO SOCIETIES WHICH SUFFERED LOSSES IN GATE RECEIPTS THROUGH WET WEATHER.

CARLETON:	
Carleton Co.	$42 00
Metcalfe	60 00
ELGIN:	
East Elgin	284 00
ESSEX:	
Colchester, South	28 00
FRONTENAC:	
Kingston Tp.	44 00
Wolfe Island	45 00
GLENGARRY:	
Glengarry	134 00
St. Lawrence Valley	32 00
GRENVILLE:	
Kemptville	153 00
Spencerville	66 00
HALDIMAND:	
Caledonia	300 00
Southern Branch	32 00
HASTINGS:	
Madoc	49 00
HURON:	
Bayfield	37 00
KENT:	
Howard	138 00
Wallaceburg	109 00
West Kent	176 00
LANARK:	
Maberly	14 00
LEEDS:	
Delta	107 00
Lansdowne	107 00
Rear of Leeds and Lansdowne	14 00
LENNOX:	
Lennox	119 00
LINCOLN:	
Abingdon	38 00
Monck	14 00
MANITOULIN:	
Howland	21 00
MIDDLESEX:	
Mosa and Ekfrid	38 00
Thorndale	40 00
NIPISSING:	
East Nipissing	8 00
Verner	17 00
NORTHUMBERLAND:	
Seymour	5 00
OXFORD:	
Ingersoll, N., and W. Oxford	58 00
North Norwich	5 00

LOSSES IN GATE RECEIPTS.—*Continued.*

PARRY SOUND:	
Armour, Ryerson and Burk's Falls	15 00
McKellar	4 00
Parry Sound	30 00
Perry	20 00
PEEL:	
Caledon	37 00
Peel Co.	121 00
Toronto Tp.	248 00
PERTH:	
Listowel	12 00
East Peterborough	110 00
PRESCOTT:	
Afred	84 00
Vankleek Hill	156 00
PRINCE EDWARD:	
Prince Edward	58 00
SIMCOE:	
Beeton	72 00
Bradford and W. Gwillimbury	130 00
STORMONT:	
Roxborough	74 00
Stormont	51 00
VICTORIA:	
Mariposa	65 00
WATERLOO:	
Elmira and Woolwich	63 00
WELLINGTON:	
Guelph and S. Wellington	257 00
WENTWORTH:	
Rockton	108 00
YORK:	
Schomberg	106 00
	$4,155 00

REPORTS OF STOCK SOCIETIES.

Society.	RECEIPTS.					EXPENDITURE.			
	Legislative grant.	Members' fees for 1912.	Municipal grant.	Sale of stock.	Total actual receipts.	Purchase of live stock.	Keep of stock.	Officers' salaries.	Total actual expenditure.
	$	$	$	$	$	$	$	$	$
Colchester North	140	136	100	.....	376	125	40	10	184
Drummond	70	60	50	.....	180	47	81	10	141
Dummer & Douro	300	140	.....	107	854	420	426	12	864
Emily	150	63	25	52	290	219	133	16	368
Lakehurst	.....	26	25	.....	95	.....	6	.....	12
Oldcastle	350	552	100	.....	1,031	1,167	210	22	1,407
Osgoode	200	173	.....	74	503	240	132	.....	449
South Woodslee	560	727	130	.....	1,540	930	220	39	1,394
Totals	1,860	1,877	430	233	4,869	3,148	1,248	109	4,819

REPORTS OF AGRICULTURAL SOCIETIES IN ONTARIO, SHOWING RECEIPTS AND EXPENDITURE FOR THE YEAR 1912.

Societies.	Receipts.							Expenditure.					
	Legislative grants.	Municipal grants.	Cash Donations.	Members' fees retained from 1911.	Members' fees paid in 1912.	Gate receipts at exhibitions.	Total actual receipts.	Total prize money paid in cash.	Special attractions	Officers' salaries.	Total expenditure for agricultural purposes.	Total actual expenditure.	Value of land and buildings.
ALGOMA:	$	$	$	$	$	$	$	$	$	$	$	$	$
Bruce Mines	225	75	.....	41	82	24	510	206	.....	37	343	398	700
Central Algoma	828	250	147	83	122	910	3,982	1,016	691	318	1,053	3,487	18,800
Iron Bridge	109	.....	.....	15	25	4	156	78	.....	7	81	99	.....
Johnston and Aberdeen	142	.....	.....	17	25	11	203	146	.....	5	158	182	.....
North Shore	187	.....	.....	29	23	17	367	142	.....	17	167	308	268
St. Joseph Island	217	20	.....	28	20	9	345	236	.....	6	271	358	5
Thessalon	261	40	.....	41	21	75	530	257	.....	30	295	518	2,750
BRANT:													
Onondaga	142	100	127	37	62	83	672	378	17	37	424	682	70
Paris	403	150	233	71	284	700	2,196	1,221	35	214	1,271	2,018	8,110
South Brant	479	200	294	93	155	840	2,437	1,413	102	185	1,446	2,306	3,900
BRUCE:													
Arran and Tara	340	185	57	122	79	474	1,539	937	35	70	1,006	1,475	1,700
Carrick	191	135	60	68	165	202	1,180	610	19	27	647	1,139	.....
Chesley	235	150	138	112	53	298	1,130	599	56	50	653	1,002	.....
Eastnor	110	75	57	72	24	132	606	320	40	35	375	564	575
Hepworth	196	125	42	88	141	184	855	488	15	27	513	745	.....
Huron Tp.	212	125	117	103	53	390	1,440	624	142	62	688	1,223	2,800
Kincardine	116	75	50	75	92	279	1,121	386	210	50	406	925	.....
Lucknow	205	142	105	111	40	287	1,238	533	30	35	584	1,067	1,000
N. Bruce and Saugeen	247	115	152	96	42	227	887	547	.....	64	547	755	.....
Northern	227	125	150	85	57	71	1,248	574	320	66	574	1,253	.....
Paisley	268	150	15	79	36	409	1,340	733	112	90	746	1,152	.....
Pinkerton	121	100	60	49	49	89	558	250	24	20	308	494	300
Teeswater	219	100	154	102	48	364	1,217	674	81	45	742	1,184	1,275
Tiverton	127	100	40	74	30	269	908	413	164	35	422	940	646
Underwood	174	130	22	83	26	149	632	451	32	38	471	661	450
Wiarton	148	165	44	.....	151	359	959	534	138	44	603	1,058	3,170
CARLETON:													
Carleton Co.	399	600	.....	.....	656	547	2,522	1,163	215	150	1,208	2,610	5,100
Carp	314	350	250	87	36	428	1,750	889	.....	110	959	1,430	6,625
Fitzroy	147	100	127	61	124	196	912	506	.....	50	591	919	125

Metcalfe	351	400	275	100	48	315	1,744	900	12	132	939	1,898	6,600
DUFFERIN:													
Dufferin	248	350	269	127	348	575	2,176	801	239	125	855	1,919	3,930
Dufferin Central	309	275	250	124	87	649	2,506	995	545	325	1,038	2,146	4,150
East Luther	215	285	138	114	130	731	2,123	657	230	89	739	1,917	4,900
DUNDAS:													
Dundas	146	.....	241	187	106	633	1,632	145	787	100	166	1,756	2,075
Mountain	200	25	185	96	205	374	1,298	591	72	.....	640	1,685	.....
Winchester	302	50	293	89	154	848	2,412	965	249	100	1,027	2,368	5,130
DURHAM:													
Cartwright	151	46	.....	61	91	179	633	428	.....	25	474	621	.....
Millbrook	350	156	58	51	61	739	1,953	1,175	50	115	1,243	1,892	6,450
Orono	201	361	191	65	131	325	1,563	692	.....	.....	709	1,474	1,150
Port Hope	235	71	205	75	100	349	1,219	701	40	79	732	1,286	1,000
West Durham	409	374	33	122	111	1,286	2,644	1,193	305	130	1,265	2,601	5,615
ELGIN:													
Aldboro'	247	149	625	107	38	453	1,847	624	172	115	700	2,010	4,112
East Elgin	251	300	265	.....	243	484	1,949	975	176	150	1,037	2,012	.....
Shedden	70	44	3	41	21	182	478	185	22	30	210	469	115
South Dorchester	172	109	10	.....	208	180	1,004	485	40	65	530	870	.....
Straffordville	100	45	13	.....	121	236	601	258	112	30	296	606	662
West Elgin	554	71	53	119	46	752	2,034	1,187	144	62	1,258	2,033	2,600
ESSEX:													
Amherstburg, Anderdon & Malden	154	300	10	51	75	183	826	508	35	40	542	819	2,200
Colchester South	205	100	28	67	62	309	988	598	79	64	624	912	3,800
Combe	126	100	79	81	77	193	797	403	130	53	459	898	3,400
Essex Co.	579	475	357	130	186	1,211	3,607	1,844	539	125	1,910	3,408	5,300
Mersea, Leamington & S. Gosfield	380	250	127	149	700	1,146	3,537	1,203	625	71	1,332	3,227	9,550
Windsor	302	2,100	840	124	321	1,853	6,978	1,315	1,844	100	1,379	7,827	4,850
FRONTENAC:													
Frontenac	149	50	14	39	.....	278	530	377	.....	25	377	526	.....
Kennebec	139	50	.....	26	17	17	250	140	.....	27	148	700	.....
Kingston Tp.	183	90	15	53	34	515	1,049	667	115	70	706	1,303	.....
Parham	76	75	28	40	36	191	531	218	93	23	249	495	650
Storrington	86	50	41	28	17	187	561	265	28	20	265	524	1,250
Wolfe Island	83	50	269	33	14	137	647	226	150	30	240	658	.....
GLENGARRY:													
Glengarry	243	.....	213	62	57	187	956	624	20	104	668	1,125	.....
Kenyon	203	.....	58	68	70	368	1,068	579	135	35	634	1,082	2,500
St. Lawrence Valley	274	.....	113	96	155	510	1,384	929	.....	45	996	1,234	2,825
GRENVILLE:													
Kemptville	248	150	138	82	45	210	1,089	594	74	50	612	1,047	1,625
Merrickville	230	150	110	325	32	295	1,231	740	95	82	743	1,347	1,475
South Grenville	252	250	213	63	45	726	1,840	665	326	105	680	1,838	11,700
Spencerville	135	135	47	98	46	239	813	447	150	35	475	1,313	1,600

PORTS OF AGRICULTURAL SOCIETIES IN ONTARIO, SHOWING RECEIPTS AND EXPENDITURE FOR THE YEAR 1912.

Societies	Receipts.							Expenditure.					
	Legislative grants.	Municipal grants.	Cash Donations.	Members' fees retained from 1911.	Members' fees paid in 1912.	Gate receipts at exhibitions.	Total actual receipts.	Total prize money paid in cash.	Special attractions.	Officers' salaries.	Total expenditure for agricultural purposes.	Total actual expenditure.	Value of land and buildings.
	$	$	$	$	$	$	$	$	$	$	$	$	$
GREY:													
Ayton	132	165	124	72	8	154	715	715	56	27	416	686	.....
Collingwood Tp.	167	125	85	71	47	208	910	514	25	30	559	971	390
Desboro	153	105	34	88	97	240	831	555	25	23	602	816	200
East Grey	147	105	.....	66	29	122	622	371	63	58	383	636	1,810
Egremont	155	75	85	85	32	324	926	477	50	29	485	879	2,230
Hanover, Bentinck & Brant	144	110	114	68	25	517	1,223	408	289	60	438	1,269	.....
Holland	106	120	14	67	139	179	701	396	39	30	426	604	1,050
Keppel	81	25	74	54	48	94	503	212	.....	50	289	502	75
Kilsyth	219	115	15	60	118	277	1,054	538	.....	35	601	958	2,530
Markdale	135	150	167	61	141	361	1,321	519	255	81	525	1,188	.....
Meaford & St. Vincent	184	75	96	84	145	374	1,748	468	65	60	493	1,198	12,000
Normanby	103	100	.....	73	55	82	454	272	35	31	297	480	.....
Osprey	150	100	12	74	13	200	768	385	98	47	425	901	665
Owen Sound	295	275	399	105	56	838	2,212	1,090	298	110	1,131	2,250	6,000
Priceville	108	75	23	55	77	244	633	338	77	32	363	595	850
Proton	180	100	42	116	95	410	1,318	568	136	56	647	1,294	3,550
Rocklyn	149	175	50	42	88	379	1,303	512	.....	56	570	1,115	3,650
South Grey	189	75	98	86	59	439	1,248	563	230	60	623	1,351	4,400
Sydenham	116	115	.....	51	109	74	593	306	.....	37	319	539	500
Walter's Falls	149	140	121	49	100	193	1,153	466	34	50	535	1,074	700
HALDIMAND:													
Caledonia	461	.....	70	107	140	1,138	2,906	1,639	330	208	1,685	4,428	6,635
Canboro	44	50	20	28	32	32	209	155	.....	10	155	212	650
Dunnville	189	150	55	.....	139	589	1,298	511	263	70	548	1,421	4,300
Haldimand	233	120	183	.....	247	446	1,570	646	294	90	696	1,444	3,000
Southern Branch	116	75	36	.....	112	110	567	303	20	27	349	564	300
Walpole	192	150	189	.....	183	418	1,388	507	248	100	576	1,346	800
HALIBURTON:													
Glamorgan	84	.....	.....	14	5	.....	103	66	.....	.....	66	74	240
Haliburton	226	125	1	36	22	52	506	247	30	15	259	513	.....
Minden	250	.....	12	37	14	70	391	289	.....	15	297	399	675

HALTON:													
Esquesing	234	150	222	82	126	386	1,583	790	40	79	810	1,492	85
Halton	403	500	245	90	246	664	3,030	1,161	385	150	1,209	4,953	7,550
Nassagaweya	123	75	150	24	45	120	612	353	.....	50	356	582	.....
Nelson & Burlington	157	225	359	58	186	155	1,485	688	194	50	717	1,297	60
Trafalgar	291	1,525	431	101	113	741	3,805	697	58	110	757	8,860	6,578
HASTINGS:													
Bancroft	232	.....	117	47	51	292	864	382	96	43	420	764	1,685
Belleville	326	340	101	67	121	963	2,360	1,051	317	128	1,111	2,188	.....
Frankford	325	40	159	60	127	587	1,485	985	.....	100	1,055	1,484	5,700
Madoc	233	40	164	167	45	307	1,430	444	386	80	495	1,427	100
Marmora	159	95	81	83	24	347	951	461	75	50	485	893	1,640
Maynooth	120	40	19	31	32	104	608	159	15	35	184	477	.....
Shannonville	113	60	46	30	41	373	813	388	142	70	421	802	425
Stirling	178	60	97	82	35	436	1,154	608	167	64	725	1,455	.....
Tweed	263	140	37	123	165	625	1,489	701	135	55	725	1,509	.....
Wollaston	167	75	61	55	45	140	621	271	6	12	297	411	1,050
HURON:													
Bayfield	114	50	35	66	80	73	645	348	101	37	350	865	1,400
Blyth	160	70	83	94	72	387	1,107	479	178	50	568	1,126	3,435
Dungannon	147	25	97	77	33	427	1,005	441	265	49	441	1,060	.....
East Huron	224	45	135	74	46	656	1,892	567	400	50	625	1,952	5,700
Exeter	215	25	23	90	79	521	1,222	636	25	106	672	1,124	3,385
Howick	139	50	.....	74	37	305	682	382	.....	35	433	600	500
Seaforth	205	25	41	92	170	661	1,876	563	71	72	625	1,437	2,100
South Huron	Spring	Fair	only.										
Turnberry	204	95	122	103	129	524	1,410	651	120	75	743	1,652	930
West Huron	245	125	110	94	98	1,174	2,459	810	881	100	841	2,528	.....
Zurich	123	25	15	81	128	262	728	384	67	23	402	640	1,600
KENORA:													
Dryden	316	25	147	37	29	127	769	480	.....	.....	505	688	1,075
Kenora	90	.....	293	.....	80	294	902	317	40	62	317	908	.....
KENT:													
Camden	133	155	10	44	56	400	928	368	20	67	404	698	2,150
East Kent	229	265	96	122	193	396	1,777	645	470	100	712	1,566	6,150
Harwich	200	325	44	72	64	355	1,524	566	164	77	691	1,295	3,750
Howard	344	250	20	125	102	744	2,481	841	448	100	943	3,193	5,300
Orford	256	200	32	98	94	306	1,345	718	12	.....	793	1,150	3,050
Raleigh & Tilbury	163	235	138	73	72	227	1,261	521	.....	52	554	1,225	2,236
Romney	134	200	5	82	94	284	907	402	195	52	410	921	3,100
Wallaceburg	137	250	23	67	34	81	926	254	109	72	339	809	3,645
West Kent	388	525	266	78	148	1,105	3,697	1,041	520	260	1,102	3,556	12,000
LAMBTON:													
Bosanquet	144	110	47	63	146	277	1,011	487	104	45	537	992	2,265
Brooke & Alvinston	289	250	125	99	58	819	1,915	721	98	70	756	3,402	6,675

Societies.	Receipts.							Expenditure.					
	Legislative grants.	Municipal grants.	Cash Donations	Members' fees retained from 1911.	Members' fees paid in 1912.	Gate receipts at exhibitions.	Total actual receipts.	Total prize money paid in cash.	Special attractions.	Officers' salaries.	Total expenditure for agricultural purposes.	Total actual expenditure.	Value of land and buildings.
LAMBTON.—*Continued.*	$	$	$	$	$	$	$	$	$	$	$	$	$
East Lambton	313	50	52	87	51	766	1,501	864	204	40	935	1,470	.....
Florence	136	50	255	102	87	192	985	500	15	2	578	912	2,250
Forest	189	195	137	92	181	366	1,506	516	150	57	547	1,146	4,575
Moore	288	150	238	48	271	448	1,580	804	77	54	899	1,429	785
Petrolea & Enniskillen	365	450	237	97	75	696	2,164	1,178	203	100	1,254	2,220	3,000
Plympton & Wyoming	162	105	30	55	86	190	736	508	.....	46	546	756	1,720
Sombra	149	125	52	64	34	152	771	289	35	150	335	762	1,225
West Lambton	412	600	864	120	59	1,266	6,081	1,104	1,164	210	1,173	8,587	5,650
LANARK:													
Dalhousie	153	50	4	51	131	189	1,127	317	20	50	349	1,083	1,970
Lanark Tp.	181	50	142	52	43	235	1,315	405	10	59	428	1,246	1,400
Lanark Village & Bathurst	233	100	258	64	29	561	1,416	712	265	126	744	1,440	.....
Maberly	97	63	68	42	70	178	910	192	118	49	205	1,027	1,355
North Lanark	687	425	524	64	217	1,840	4,316	2,041	644	195	2,081	4,374	18,250
Pakenham	179	75	145	68	120	279	974	509	30	41	517	876	2,175
South Lanark	398	425	875	74	66	1,114	4,081	916	454	139	1,017	8,139	12,080
LEEDS:													
Brockville	800	438	2,068	142	305	2,590	7,350	2,283	1,613	350	2,323	6,748	3,620
Delta	232	150	130	88	48	474	1,782	750	267	80	805	1,808	4,350
Frankville	214	150	92	206	37	315	1,210	620	155	50	642	1,205	900
Lansdowne	195	150	56	89	84	375	1,432	584	77	75	576	1,362	5,975
Lombardy	107	107	72	120	31	199	758	367	.....	33	385	624	155
North Crosby	87	87	65	77	8	154	487	210	265	55	222	635	.....
Rear of Leeds & Lansdowne	67	67	15	21	34	94	432	180	152	58	192	529	565
LENNOX & ADDINGTON:													
Addington	75	50	47	39	13	206	501	126	.....	60	141	373	.....
Amherst Island	140	.....	17	6	45	.....	217	172	9	15	172	203	.....
Centreville	90	100	9	37	50	173	471	247	50	25	255	481	.....
Ernestown	75	60	52	45	34	331	687	281	15	33	287	623	2,500
Lennox	336	25	5	40	158	584	1,488	871	30	100	929	1,488	2,800

LINCOLN:													
Abingdon	87	75	.....	57	170	106	574	204	67	40	204	717	1,200
Clinton Tp.	200	184	.....	.....	163	471	1,325	555	50	60	601	1,208	2,640
Monck	96	75	115	33	33	92	537	124	141	37	136	549	1,835
Niagara Town & Tp.	131	150	130	40	72	26	625	348	77	40	348	610	.....
Peninsular Central	98	125	81	51	73	304	911	360	171	65	394	980	2,250
MANITOULIN:													
Billings	314	40	82	69	16	114	802	454	.....	32	472	619	2,575
Gore Bay	445	.....	118	76	33	197	882	604	.....	73	621	847	2,100
Howland	225	75	63	53	24	23	550	192	.....	27	212	470	527
Manitowaning	248	25	8	40	23	73	458	298	.....	40	341	463	700
Providence Bay	204	.....	45	31	16	138	450	236	.....	10	248	408	330
MIDDLESEX:													
Caradoc	99	150	90	37	106	165	923	319	170	50	361	902	1,350
Delaware	119	90	205	.....	154	273	1,093	490	187	35	504	1,150	350
Dorchester	190	50	63	.....	166	483	1,059	684	162	54	717	1,102	1,145
London Tp.	120	200	154	75	53	275	1,011	343	114	40	351	1,139	1,321
McGillivray	58	25	25	32	28	41	278	243	.....	25	248	332	.....
Melbourne	100	150	113	89	66	556	1,149	412	415	25	417	1,255	2,110
Mosa & Ekfrid	198	200	202	107	80	258	2,179	660	192	55	685	2,075	4,620
North Middlesex	140	50	91	71	38	257	880	376	64	75	402	808	700
Parkhill	144	50	87	64	49	333	1,098	397	117	55	397	851	2,500
Strathroy	558	150	327	87	111	1,565	3,677	1,555	883	104	1,589	3,534	9,150
Thorndale	143	125	159	.....	142	149	993	336	139	75	355	894	1,050
Westminster	131	110	122	79	126	140	703	316	111	50	341	659	90
MUSKOKA:													
Baysville	200	.....	26	32	12	5	275	206	.....	10	220	260	25
Gravenhurst & Muskoka	366	.....	171	50	23	129	856	467	30	65	520	746	56
Medora & Wood	274	15	21	42	30	40	488	332	.....	25	403	496	.....
Morrison	153	.....	100	28	15	34	137	147	.....	16	147	229	1,050
North Muskoka	468	90	120	78	24	173	1,017	504	31	51	535	774	3,200
South Muskoka	790	100	251	108	46	417	1,931	1,227	218	85	1,318	2,010	1,425
Stephenson & Watt	337	15	56	51	24	113	728	330	49	42	385	710	1,050
Stisted	252	.....	12	40	17	18	341	221	.....	15	233	282	490
NIPISSING:													
Astorville	225	.....	110	16	25	.....	373	213	.....	.....	213	353	600
Bonfield	243	.....	.....	23	19	.....	299	216	.....	30	216	299	1,160
Charlton	140	50	63	33	51	118	701	253	40	25	293	693	1,375
East Nipissing	461	.....	55	39	37	100	706	549	.....	61	568	759	1,000
Englehart	199	75	358	45	87	235	1,151	232	.....	25	308	1,782	3,150
New Liskeard	495	100	60	82	62	282	1,149	592	28	104	677	2,999	6,025
Sturgeon Falls	Incomplete returns												
Verner	313	30	.....	43	26	41	540	328	.....	20	366	584	.....
NORFOLK:													
Charlotteville	184	.....	61	14	105	306	756	469	.....	68	503	701	6,150

Societies.	Receipts.							Expenditure.					
	Legislative grants.	Municipal grants.	Cash Donations.	Members' fees retained from 1911.	Members' fees paid in 1912.	Gate receipts at exhibitions.	Total actual receipts.	Total prize money paid in cash.	Special attractions.	Officers' salaries.	Total expenditure for agricultural purposes.	Total actual expenditure.	Value of land and buildings.
NORFOLK.—*Continued.*	$	$	$	$	$	$	$	$	$	$	$	$	$
Courtland	91	10	20	24	98	80	343	250	.....	37	258	448	.....
Houghton	117	.....	36	.....	156	346	712	321	21	84	333	702	1,410
Norfolk Co.	631	.....	214	.....	439	1,742	3,401	1,887	109	250	1,938	3,356	12,400
North Walsingham	125	.....	16	12	203	146	575	359	.....	52	412	688	475
Townsend	106	.....	89	.....	113	169	606	222	75	67	223	577	1,800
Windham	106	.....	18	25	116	143	547	328	.....	35	334	493	325
NORTHUMBERLAND:													
Alnwick	156	47	10	56	26	289	609	391	81	45	434	585	850
Brighton	167	90	35	73	70	403	1,055	490	.....	50	490	876	.....
Cobourg Central	384	116	181	116	57	358	1,973	1,006	162	88	1,059	4,694	20,000
Colborne	290	91	254	64	19	452	1,306	900	.....	52	936	1,264	771
Cramahe	178	104	37	61	31	142	621	439	18	40	457	596	850
Percy Tp.	360	20	203	109	33	680	1,712	1,059	145	75	1,101	2,112	3,950
Seymour	249	175	67	74	186	357	1,300	516	168	87	570	1,038	2,225
South Monaghan	63	20	15	26	35	37	208	189	12	25	197	274	325
Wooler	102	105	85	48	30	364	814	229	174	25	324	793	175
ONTARIO:													
Beaverton	165	160	127	57	89	246	888	495	38	78	565	922	.....
Brock	225	160	239	73	77	331	1,318	801	70	45	807	1,765	.....
Pt. Perry, Reach & Scugog	109	100	193	40	136	366	1,148	453	319	64	466	1,235	.....
Ramona	35	.....	30	24	37	22	154	105	.....	12	105	139	386
Scott	141	70	93	47	56	173	772	436	20	37	441	737	.....
South Ontario	475	330	1,033	133	70	2,476	4,881	1,432	889	150	1,433	4,014	6,850
Uxbridge	237	60	283	51	49	674	1,638	675	309	154	675	1,792	.....
OXFORD:													
Drumbo	320	50	71	56	106	463	1,646	1,071	.....	77	1,100	1,561	315
East Nissouri	62	.....	80	15	202	215	637	232	37	30	262	509	.....
Ingersoll N. & W. Oxford	183	.....	107	.....	154	294	1,122	410	16	75	459	969	1,900
North Norwich	207	85	213	52	184	184	1,291	620	128	40	621	1,294	2,000
South Norwich	174	25	32	.....	175	203	836	483	.....	41	547	807	300
Tavistock	242	15	63	101	50	426	1,230	678	38	42	728	1,202	300

[illegible] & Bentham	250	.....	72	47	305	623	1,556	727	142	140	786	1,461	5,250
West Zorra & Embro	149	.....	51	.....	205	299	1,063	419	112	30	468	891	625
Woodstock	495	200	815	82	171	1,220	3,783	1,567	576	160	1,575	3,149	3,650
PARRY SOUND:													
Armour, Ryerson, & Burk's Falls.	573	100	198	99	44	156	1,299	704	40	80	758	1,327	3,370
Christie	101	50	7	.....	93	25	379	128	.....	20	128	272	156
Loring	279	.....	16	56	4	122	502	297	13	22	317	482	370
Machar	314	.....	48	36	11	72	539	245	.....	37	304	528	1,935
Magnetawan	295	10	100	54	25	39	633	323	.....	17	379	618	600
McKellar	348	25	7	131	6	193	761	406	.....	22	436	703	1,715
McMurrich	318	25	143	50	22	68	820	396	20	40	468	783	1,170
Parry Sound	466	175	85	76	17	154	1,132	479	20	75	499	1,020	7,405
Perry	365	50	31	62	34	29	791	378	.....	25	442	771	2,390
Powassan	375	.....	38	41	11	83	650	363	6	64	429	687	1,336
Rosseau	226	.....	11	30	24	45	341	241	.....	20	253	309	.....
Strong	326	.....	16	50	10	115	636	393	.....	25	449	713	1,500
United Townships	238	5	5	44	7	32	359	221	.....	17	229	317	.....
PEEL:													
Albion & Bolton	296	300	118	104	49	522	1,590	874	84	40	969	1,545	2,250
Caledon	218	230	101	95	97	165	1,005	550	115	65	578	1,043	733
Cooksville	210	150	210	106	94	591	1,522	676	40	50	721	1,349	1,000
Peel	463	435	246	92	218	863	3,199	1,415	323	309	1,453	3,332	5,250
Toronto Gore	Spring	Fair	only										
Toronto Tp.	299	225	86	123	83	81	1,943	1,156	271	79	1,207	2,690	2,900
PERTH:													
Elma	145	37	50	76	44	191	888	395	41	62	400	786	1,420
Fullarton, Logan & Hibbert	245	357	131	102	19	460	1,521	806	42	74	861	1,507	1,700
Kirkton	165	98	58	76	264	273	1,092	502	73	50	561	1,012	2,350
Listowel	214	108	67	98	34	444	1,518	430	440	58	471	1,550	2,105
Mornington	200	84	.....	87	306	500	1,235	613	165	96	613	1,242	4,050
South Perth	207	204	61	44	148	633	1,751	667	194	157	705	1,443	3,280
Stratford	314	197	164	120	236	725	2,409	889	131	75	905	2,283	.....
PETERBOROUGH:													
East Peterborough	418	150	59	85	50	799	1,774	1,064	145	104	1,104	1,678	3,110
Galway	58	25	69	37	30	4	245	169	.....	25	169	234	.....
Lakefield	129	130	73	75	32	450	1,073	404	111	25	424	914	2,625
Otonabee	151	25	49	69	36	206	684	375	54	36	417	652	1,150
Peterborough Industrial	584	650	219	147	99	3,379	6,525	1,874	1,114	125	1,982	6,616	3,540
PRESCOTT:													
Alfred	123	50	90	92	47	141	838	287	46	30	313	748	2,500
South Plantagenet	118	50	.....	62	15	228	480	273	11	40	378	421	225
Vankleek Hill	360	50	225	116	77	479	1,684	1,068	.....	102	1,092	1,999	5,450
PRINCE EDWARD:													
Ameliasburgh	160	.....	.....	67	36	355	787	516	29	62	562	830	.....
Prince Edward	507	.....	134	67	302	1,099	4,380	1,505	425	153	1,587	4,734	17,200
Sophiasburgh	110	.....	42	58	29	157	456	379	.....	25	412	536	.....

Societies.	Receipts.							Expenditure.					
	Legislative grants.	Municipal grants.	Cash Donations.	Members' fees retained from 1911.	Members' fees paid in 1912.	Gate receipts at exhibitions.	Total actual receipts.	Total prize money paid in cash.	Special attractions.	Officers' salaries.	Total expenditure for agricultural purposes.	Total actual expenditure.	Value of land and buildings.
	$	$	$	$	$	$	$	$	$	$	$	$	$
RAINY RIVER:													
Emo	390	150	400	65	54	140	1,506	691	50	.....	716	1,627	1,232
RENFREW:													
Arnprior	178	.....	219	84	193	279	1,097	448	30	.....	481	1,410	.....
Cobden	191	35	171	92	91	472	1,266	392	.....	30	622	1,095	6,200
North Renfrew	412	100	393	101	166	656	2,223	1,172	120	108	1,241	2,477	19,250
Renfrew	608	200	471	50	423	3,278	6,677	1,865	1,423	125	1,941	6,649	16,025
RUSSELL:													
Casselman	63	50	125	36	41	322	713	175	285	40	187	1,039	1,550
Clarence	94	100	66	25	53	123	478	284	.....	50	302	430	1,140
Russell	214	100	132	80	79	399	441	608	171	40	710	1,489	3,200
SIMCOE:													
Alliston	144	.....	104	30	15	446	813	462	40	50	498	807	.....
Barrie	462	150	390	148	83	1,053	2,964	1,221	507	160	1,307	2,917	250
Beeton	250	35	216	93	59	104	1,156	604	106	44	628	1,013	2,550
Bradford & W. Gwillimbury	220	72	.....	105	94	366	1,205	654	231	79	738	1,339	1,500
Coldwater	169	130	325	65	40	497	1,642	446	200	50	473	1,571	325
Cookstown	273	80	226	161	49	300	1,491	769	116	90	809	1,390	1,330
East Simcoe	No	Fair											
Flos Tp	215	.....	117	78	33	673	1,651	540	349	110	560	2,230	4,400
Nottawasaga and G. Northern	282	100	129	94	174	125	3,632	726	481	295	814	3,902	.....
Oro	175	.....	109	95	65	371	834	565	34	54	587	800	100
Tiny & Tay	217	50	332	63	39	680	1,595	635	308	60	740	1,747	.....
STORMONT:													
Cornwall	250	300	254	86	167	739	2,074	887	504	100	925	2,287	4,250
Finch	82	.....	72	48	37	99	668	197	14	15	209	658	300
Roxborough	143	100	144	.....	142	207	939	369	32	20	369	1,299	.....
Stormont	150	.....	91	.....	109	180	622	337	6	22	362	555	525
SUDBURY:													
Massey	421	.....	30	55	43	218	943	436	10	27	457	1,336	1,200
Warren	267	.....	42	37	44	42	486	334	2	27	409	706	205

THUNDER BAY:													
Oliver	396	50	109	65	43	169	1,217	531	152	52	568	1,298	5,065
West Algoma	900	12,500	215	193	180	1,794	23,050	2,390	824	620	2,396	12,578	.....
Whitefish Valley	120	.....	247	.....	151	70	999	290	50	17	302	885	250
VICTORIA:													
Eldon	160	100	58	69	40	182	843	344	52	35	392	754	.....
Fenelon	132	110	144	52	20	180	686	452	75	25	487	719	.....
Mariposa	114	50	76	64	111	43	658	394	89	40	394	674	.....
North Victoria	70	114	18	61	23	64	361	180	9	15	195	374	750
South Victoria	744	100	465	109	188	3,717	6,703	2,194	1,305	262	2,216	6,335	17,900
Verulam	269	145	219	96	31	395	1,769	579	129	25	613	2,251	5,680
WATERLOO:													
Elmira & Woolwich	153	50	222	65	51	197	1,356	439	160	45	446	1,314	4,500
South Waterloo	494	395	342	.....	245	428	2,378	1,385	109	165	1,541	2,626	1,375
Wellesley & N. Easthope	230	115	48	85	82	205	976	625	25	50	655	949	1,800
Wilmot	215	140	170	87	50	431	1,303	561	.....	102	606	1,092	250
WELLAND:													
Bertie	244	180	622	29	193	243	1,803	694	469	60	760	1,627	.....
Fenwick	182	200	97	49	155	728	1,937	724	285	80	765	2,158	4,345
Stamford & Niagara Falls	189	450	464	.....	14	768	2,430	492	850	210	576	2,129	.....
Thorold Town & Tp.	151	300	247	76	71	377	1,389	479	322	50	497	1,385	10,250
Wainfleet	80	125	78	49	35	80	440	257	.....	25	285	451	105
Welland	331	300	186	57	218	1,523	3,178	995	269	152	1,070	2,859	18,400
WELLINGTON:													
Arthur	177	75	77	113	52	337	1,298	513	109	70	535	1,194	2,200
Centre Wellington	337	100	291	113	194	492	1,979	894	230	104	937	1,902	1,500
Erin	354	.....	153	.....	310	660	1,972	1,044	45	85	1,108	2,189	2,350
Guelph & S. Wellington	.....	175	832	.....	210	1,413	4,690	2,550	414	200	2,559	4,073	.....
Maryborough	96	50	58	55	24	67	475	245	5	20	245	595	.....
Mount Forest	322	50	217	99	124	708	1,748	900	110	70	979	2,359	749
Palmerston	116	.....	150	60	12	153	691	439	80	50	457	813	2,625
Peel & Drayton	149	55	111	87	37	355	1,134	443	.....	69	465	1,162	.....
Puslinch	183	.....	.....	.....	514	142	940	470	41	54	524	1,021	200
Rockwood	184	.....	201	69	91	410	1,265	578	34	42	584	1,127	.....
West Garafraxa	118	65	55	58	11	41	448	303	41	25	304	443	.....
West Wellington	168	35	227	90	84	359	1,350	499	348	50	499	1,321	1,525
WENTWORTH:													
Ancaster	179	225	189	41	129	327	1,518	510	263	105	519	1,525	4,380
Binbrook	97	50	127	60	106	74	594	247	53	40	247	525	.....
Rockton	322	175	66	.....	343	361	1,653	1,074	164	125	1,122	1,972	.....
South Wentworth	229	660	804	.....	354	650	2,963	1,440	419	183	1,441	3,184	.....
Waterdown	204	140	36	65	250	203	1,015	670	16	40	715	1,092	10
West Flamboro	136	75	151	52	94	197	1,096	538	67	77	585	1,262	127

REPORTS OF AGRICULTURAL SOCIETIES IN ONTARIO, SHOWING RECEIPTS AND EXPENDITURE FOR THE YEAR 1912.

Societies.	Receipts.							Expenditure.					
	Legislative grants.	Municipal grants.	Cash Donations.	Members' fees retained from 1911.	Members' fees paid in 1912.	Gate receipts at exhibitions.	Total actual receipts.	Total prize money paid in cash.	Special attractions.	Officers' salaries.	Total expenditure for agricultural purposes.	Total actual expenditure.	Value of land and buildings.
YORK:	$	$	$	$	$	$	$	$	$	$		$	$
Markham	790	150	889	154	189	2,305	6,185	2,318	612	260	2,380	5,934	20,050
Newmarket	506	210	867	152	148	1,428	4,241	1,320	692	175	1,349	3,515	9,150
Queensville	136	35	108	58	77	131	558	460	15	35	460	638	.....
Richmond Hill	185	75	117	63	61	560	1,517	512	170	79	541	1,320	2,200
Scarboro	331	35	735	75	60	184	1,620	810	30	116	859	1,468	58
Schomberg	295	70	197	99	50	422	1,676	838	151	53	863	1,735	2,450
Sutton	128	100	148	60	118	221	1,081	495	142	60	501	1,044	2,000
Weston, York & Etobicoke	311	325	578	64	105	957	2,794	613	302	80	665	1,848	1,800
Woodbridge	572	225	298	122	122	1,173	2,843	1,566	168	200	1,730	2,995	15,150
INDIAN SOCIETIES:													
Six Nations	100	.....	16	39	96	463	1,006	375	240	55	403	987	3,075
United Indians	125	50	1	47	7	142	402	168	126	21	224	409	.....
Totals	78,241	54,333	48,739	22,359	31,984	139,567	504,684	203,073	51,655	23,450	215,751	489,781	824,414

ANALYSIS OF PRIZE MONEY PAID BY AGRICULTURAL SOCIETIES IN ONTARIO IN 1912.

Societies.	Horses.	Cattle.	Sheep.	Swine.	Miscellaneous.	Total.
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
ALGOMA:						
Bruce Mines	40 00	32 25	20 50	3 50	110 25	206 50
Central Algoma	260 00	152 50	6 00	7 00	590 50	1,016 00
Iron Bridge	15 25	8 50	9 00	2 50	43 25	78 50
Johnston & Aberdeen	37 00	16 00	23 00	.....	69 75	145 75
North Shore	25 00	20 50	15 50	2 50	78 75	142 25
St. Joseph Island	46 00	30 00	10 00	.....	150 00	236 00
Thessalon	83 00	49 00	11 00	3 50	110 25	256 75
BRANT:						
Onondaga	109 00	39 00	18 00	26 50	185 75	378 25
Paris	309 50	121 00	141 00	122 00	527 75	1,221 25
South Brant	374 50	146 00	165 00	105 00	622 75	1,413 25
BRUCE:						
Arran & Tara	399 00	157 00	71 00	6 60	303 25	936 85
Carrick	225 00	106 00	17 00	19 00	243 00	610 05
Chesley	183 50	79 00	32 00	6 00	298 60	599 10
Eastnor	71 50	43 50	23 00	12 50	170 00	320 50
Hepworth	166 00	69 75	26 00	19 00	207 15	487 90
Huron Tp.	165 50	87 75	45 00	23 75	301 72	623 72
Kincardine	149 75	42 25	34 25	22 50	137 50	386 25
Lucknow	205 00	112 50	23 50	16 00	176 00	533 00
N. Bruce and Saugeen	170 00	78 00	37 00	26 00	235 90	546 90
Northern	187 00	88 75	64 75	4 00	229 05	573 55
Paisley	177 00	106 00	75 00	44 00	330 75	732 77
Pinkerton	67 50	23 50	10 25	7 00	141 75	250 00
Teeswater	167 00	105 50	69 00	25 00	307 25	673 75
Tiverton	160 00	64 25	40 00	24 50	124 22	412 97
Underwood	127 30	55 25	40 25	40 00	187 90	450 70
Wiarton	137 00	95 00	52 50	35 75	213 65	533 90
CARLETON:						
Carleton Co.	272 00	160 00	116 00	78 00	537 47	1,163 47
Carp	371 00	112 00	38 00	21 00	347 25	889 25
Fitzroy	157 00	43 00	22 50	8 00	276 00	506 50
Metcalfe	265 60	199 50	88 75	61 10	284 80	899 75
DUFFERIN:						
Dufferin	216 00	52 00	54 75	6 00	472 00	800 75
Dufferin Central	292 00	157 00	71 00	29 00	435 65	994 65
East Luther	151 50	94 50	40 00	4 00	367 25	657 25
DUNDAS:						
Dundas	145 04	.....	.....	.....	.....	145 04
Mountain	144 25	169 00	37 25	47 50	193 25	591 25
Winchester	541 75	141 80	45 50	21 50	214 10	964 65
DURHAM:						
Cartwright	127 00	41 50	59 00	25 00	176 00	428 50
Millbrook	390 00	114 50	91 00	63 00	516 25	1,174 75
Orono	180 00	86 00	71 00	55 00	300 00	692 00
Port Hope	155 00	128 00	72 00	19 00	327 42	701 42
West Durham	300 50	177 00	145 00	83 00	487 70	1,193 20
ELGIN:						
Aldborough	160 00	117 00	66 50	26 50	253 80	623 80
East Elgin	241 00	209 25	19 50	31 00	474 40	975 15
Shedden	93 10	42 75	22 50	15 25	11 30	184 90
South Dorchester	114 00	52 50	8 50	1 00	308 63	484 63
Straffordville	63 75	46 75	16 75	5 50	124 85	257 60
West Elgin	490 00	200 00	55 00	34 00	408 35	1,187 35
ESSEX:						
Amherstburg, Anderdon & Malden	91 00	115 50	36 25	41 75	223 85	508 35
Colchester South	122 00	115 00	60 00	23 00	277 30	597 30
Comber	129 25	31 75	43 75	7 00	191 75	403 50
Essex Co.	571 00	265 50	201 50	152 00	654 50	1,844 50
Mersea, Leamington & S. Gosfield	247 50	90 25	170 00	110 50	584 50	1,202 75
Windsor	249 00	267 00	203 00	195 00	400 75	1,314 75

ANALYSIS OF PRIZE MONEY PAID BY AGRICULTURAL SOCIETIES.—*Continued.*

Societies	Horses.	Cattle.	Sheep.	Swine.	Miscellaneous.	Total.
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
FRONTENAC:						
Frontenac	138 00	50 50	15 00	26 00	148 00	377 50
Kennebec	47 00	18 25	13 25	13 00	48 85	140 35
Kingston Tp.	153 00	98 00	25 25	30 50	360 75	667 50
Parham	57 25	29 00	7 25	12 00	112 25	217 75
Storrington	70 50	43 40	8 40	11 00	131 45	264 75
Wolfe Island	69 25	32 25	11 25	15 50	98 25	226 50
GLENGARRY:						
Glengarry	150 50	87 00	78 00	13 00	295 25	623 75
Kenyon	185 50	128 00	23 50	29 00	212 65	578 65
St. Lawrence Valley	323 50	190 00	55 00	38 50	322 00	929 00
GRENVILLE:						
Kemptville	163 80	60 50	33 25	35 50	301 00	594 05
Merrickville	408 38	67 50	20 25	7 50	236 90	740 53
South Grenville	165 00	89 00	35 00	34 00	342 25	665 25
Spencerville	99 00	73 25	15 00	7 00	252 75	447 00
GREY:						
Ayton	156 00	46 00	26 25	12 00	150 50	390 75
Collingwood Tp.	227 00	105 00	15 50	9 00	157 75	514 25
Desboro	233 00	92 00	29 25	7 00	193 75	555 00
East Grey	46 00	73 50	40 50	15 50	195 45	370 95
Egremont	146 50	77 75	25 00	37 00	190 50	476 75
Hanover, Bentinck & Brant.	154 50	50 00	48 00	16 00	139 85	408 35
Holland	167 50	46 00	15 75	7 00	159 50	395 75
Keppel	51 50	21 75	11 50	8 50	119 05	212 30
Kilsyth	188 00	114 00	34 00	6 50	195 50	538 00
Markdale	185 00	98 75	43 50	22 50	169 00	518 75
Meaford & St. Vincent	137 00	56 75	14 50	10 00	249 45	467 70
Normanby	84 50	22 75	6 25	10 75	147 60	271 85
Osprey	126 00	46 50	50 50	7 75	154 25	385 00
Owen Sound	251 00	109 00	72 00	31 00	627 25	1,090 25
Priceville	60 25	41 75	41 00	17 00	178 15	338 15
Proton	180 00	74 25	56 50	15 00	242 00	567 75
Rocklyn	141 00	116 00	39 00	12 00	204 50	512 50
South Grey	97 50	67 50	62 00	18 00	318 50	563 50
Sydenham	87 75	36 00	18 50	7 25	156 75	306 25
Walter's Falls	179 00	101 00	34 00	14 75	137 75	466 50
HALDIMAND:						
Caledonia	468 00	216 50	222 00	72 00	660 50	1,639 00
Canboro	53 15	10 00	22 25	9 00	60 50	154 90
Dunnville	192 00	123 00	29 75	5 50	160 30	510 55
Haldimand	248 00	68 50	58 00	5 00	266 85	646 35
Southern Branch	139 00	24 25	14 25	5 50	120 15	303 15
Walpole	242 50	91 50	26 50	.....	146 10	506 60
HALIBURTON:						
Glamorgan	18 00	3 30	3 55	70	40 09	65 64
Haliburton	91 50	20 00	16 50	8 75	110 55	247 30
Minden	67 25	45 25	44 30	13 00	118 80	288 60
HALTON:						
Esquesing	341 00	80 00	69 00	23 00	276 75	789 75
Halton	323 00	183 00	119 00	52 00	484 15	1,161 15
Nassagaweya	95 00	11 00	24 75	.....	222 50	353 25
Nelson & Burlington	225 00	71 00	30 50	11 00	350 30	687 80
Trafalgar	210 00	140 00	40 00	30 00	277 30	697 30
HASTINGS:						
Bancroft	100 00	49 00	38 00	2 00	193 24	382 24
Belleville	478 00	185 00	110 00	53 75	224 45	1,051 20
Frankford	373 75	151 75	146 75	62 50	250 00	984 75
Madoc	187 50	64 25	11 75	7 00	173 99	444 49
Marmora	119 25	76 25	12 50	12 75	240 75	461 50
Maynooth	57 25	23 00	8 25	10 50	59 70	158 70
Shannonville	107 75	84 25	56 75	25 50	113 55	387 80
Stirling	165 50	103 00	56 00	31 00	252 10	607 60
Tweed	149 05	198 25	39 50	41 50	273 10	701 40
Wollaston	49 10	30 25	28 50	9 75	152 95	270 55

ANALYSIS OF PRIZE MONEY PAID BY AGRICULTURAL SOCIETIES.—*Continued.*

Societies	Horses.	Cattle.	Sheep.	Swine.	Miscellaneous.	Total.
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
HURON:						
Bayfield	91 50	42 00	26 75	16 50	171 50	348 25
Blyth	132 25	79 75	28 50	24 00	214 25	478 75
Dungannon	132 00	68 00	35 50	22 00	183 25	440 75
East Huron	170 00	50 50	40 50	11 50	294 50	567 00
Exeter	232 65	80 50	34 00	29 00	260 30	636 45
Howick	86 50	69 80	33 75	9 00	182 50	381 55
Seaforth	190 00	68 50	40 00	25 00	239 50	563 00
South Huron	(Spring	Fair	only)			
Turnberry	226 50	81 00	31 50	29 60	282 70	650 70
West Huron	140 00	140 00	49 00	31 00	450 05	810 05
Zurich	123 00	52 75	12 00	7 00	189 50	384 25
KENORA:						
Dryden	89 00	39 00	13 00	.....	339 15	480 15
Kenora	37 75	35 00	1 00	.....	243 75	317 50
KENT:						
Camden	140 50	35 25	29 00	17 25	146 35	368 35
East Kent	141 00	73 50	105 00	43 75	281 90	645 15
Harwich	149 75	76 50	47 25	34 50	258 40	566 40
Howard	240 00	141 50	109 00	39 25	312 15	841 90
Orford	205 00	114 00	114 50	18 00	266 55	718 05
Raleigh & Tilbury	241 00	61 25	47 00	42 70	128 80	520 75
Romney	119 50	31 75	52 75	42 85	154 85	401 70
Wallaceburg	96 00	17 75	11 50	2 00	126 40	253 65
West Kent	189 00	241 25	111 00	56 00	443 85	1,041 10
LAMBTON:						
Bosanquet	119 75	88 00	17 75	18 00	243 65	487 15
Brooke & Alvinston	214 00	127 50	54 75	15 00	309 85	721 10
East Lambton	160 25	152 50	125 75	56 50	369 10	864 10
Florence	193 75	60 25	60 75	28 50	156 50	499 75
Forest	120 25	100 00	64 00	40 00	191 90	516 15
Moore	236 00	168 00	73 50	32 25	294 25	804 00
Petrolea & Enniskillen	269 00	292 50	169 00	72 00	375 15	1,177 65
Plympton & Wyoming	131 75	85 50	77 50	35 25	178 30	508 30
Sombra	94 50	25 50	29 00	6 50	133 60	289 10
West Lambton	188 00	230 00	134 50	50 50	501 05	1,104 05
LANARK:						
Dalhousie	83 75	46 75	9 00	.....	177 80	317 30
Lanark Tp.	123 25	46 25	14 50	9 00	183 70	376 70
Lanark Village & Bathurst	228 76	46 30	25 94	24 90	385 89	711 79
Maberly	88 00	25 75	.....	.....	78 30	192 05
North Lanark	906 43	319 76	72 00	71 50	671 06	2,040 75
Pakenham	230 00	35 00	20 00	16 00	208 50	509 50
South Lanark	263 10	155 70	44 40	35 00	418 30	916 50
LEEDS:						
Brockville	651 00	361 00	87 50	131 00	1,052 30	2,282 80
Delta	132 45	118 80	55 13	31 50	411 71	749 59
Frankville	172 91	94 75	38 75	36 00	277 94	620 35
Lansdowne	136 00	73 50	24 00	16 50	333 70	583 70
Lombardy	182 00	30 00	8 25	3 75	142 75	366 75
North Crosby	108 00	.....	.....	.....	101 85	209 85
Rear of Leeds & Lansdowne	51 80	9 78	2 55	7 65	107 81	179 59
LENNOX & ADDINGTON:						
Addington	52 50	26 00	.....	3 00	44 95	126 45
Amherst Island	49 75	28 90	11 25	7 00	74 90	171 80
Centreville	89 00	75 00	16 00	16 00	50 85	246 85
Ernestown	85 00	35 00	13 75	11 00	135 95	280 70
Lennox	215 00	101 00	56 77	67 00	431 00	870 77
LINCOLN:						
Abingdon	57 75	26 00	27 45	1 00	92 10	204 30
Clinton	188 00	70 50	.....	18 50	278 25	555 25
Monck	39 30	29 40	11 00	2 00	42 44	124 14
Niagara Town & Tp.	111 50	.....	.....	.....	236 55	348 05
Peninsular Central	110 00	31 00	20 75	2 00	195 95	359 70

ANALYSIS OF PRIZE MONEY PAID BY AGRICULTURAL SOCIETIES.—*Continued.*

Societies.	Horses.	Cattle.	Sheep.	Swine.	Miscellaneous.	Total
MANITOULIN ISLAND:	$ c.	$ c.	$ c	$ c.	$ c.	$ c.
Billings	107 00	44 00	15 00	12 00	276 00	454 00
Gore Bay	152 50	80 50	47 00	32 50	291 75	604 25
Howland	48 00	12 50	21 00	9 00	102 00	192 50
Manitowaning	78 00	68 25	17 50	1 50	133 00	298 25
Providence Bay	59 75	19 25	16 50	7 75	133 00	236 25
MIDDLESEX:						
Caradoc	102 50	25 25	27 50	.....	163 35	318 60
Delaware	126 25	119 00	61 75	22 00	161 20	490 20
Dorchester	311 00	172 50	58 00	13 25	129 00	683 75
London Tp.	150 00	53 50	18 50	12 00	108 75	342 75
McGillivray	103 50	21 00	13 50	1 00	104 50	243 50
Melbourne	221 95	45 50	21 50	1 00	122 05	412 00
Mosa & Ekfrid	238 50	156 75	63 00	17 50	183 85	659 60
North Middlesex	118 50	58 50	10 50	9 00	180 00	376 50
Parkhill	101 00	39 65	20 25	13 25	222 45	396 60
Strathroy	398 00	334 00	131 50	51 00	640 25	1,554 75
Thorndale	106 50	67 50	10 00	20 25	132 00	336 25
Westminster	93 50	46 00	20 50	15 00	141 40	316 40
MUSKOKA:						
Baysville	34 50	27 00	14 00	10 50	119 80	205 80
Gravenhurst & Muskoka	84 50	53 00	9 50	18 00	302 15	467 15
Medora & Wood	58 50	47 50	20 00	5 00	200 75	331 75
Morrison	39 00	30 25	10 50	7 50	60 15	147 40
North Muskoka	87 00	63 75	32 00	4 00	316 80	503 55
South Muskoka	323 00	422 00	95 00	35 00	652 00	1,227 00
Stephenson & Watt	73 50	22 25	17 00	5 50	212 05	330 30
Stisted	51 75	34 25	18 75	6 50	110 25	221 50
NIPISSING:						
Astorville	37 50	46 50	12 00	11 00	106 00	213 00
Bonfield	36 75	32 00	17 50	.....	129 75	216 00
Charlton	35 00	23 50	2 00	5 00	187 75	253 25
East Nipissing	113 00	102 50	32 00	78 00	223 75	549 25
Englehart	38 00	22 00	.....	19 00	152 93	231 93
New Liskeard	92 50	97 25	4 50	7 00	390 50	591 75
Sturgeon Falls	(Incomplete returns)					
Verner	68 50	107 00	6 00	40 00	107 00	328 50
NORFOLK:						
Charlotteville	129 75	67 75	32 75	12 75	225 60	468 60
Courtland	55 00	32 80	16 25	8 75	136 88	249 68
Houghton	74 50	68 75	16 00	2 50	159 60	321 35
Norfolk Co.	442 00	275 50	187 00	69 50	913 25	1,887 25
North Walsingham	86 25	66 25	24 00	7 50	174 70	358 70
Townsend	92 50	6 50	18 00	3 75	101 00	221 75
Windham	98 75	55 75	14 25	6 50	152 75	328 00
NORTHUMBERLAND:						
Alnwick	97 00	67 25	45 25	13 00	169 00	391 50
Brighton	211 00	74 50	77 50	11 50	115 60	490 10
Cobourg Central	261 00	250 00	77 00	20 00	398 25	1,006 25
Colborne	270 50	147 75	89 00	36 25	356 10	899 60
Cramahe	96 50	100 50	42 75	27 50	171 43	438 68
Percy Tp.	244 00	194 25	175 50	71 75	373 85	1,059 35
Seymour	153 50	91 00	57 00	11 00	203 95	516 45
South Monaghan	63 75	21 00	19 25	.....	85 25	189 25
Wooler	56 75	68 35	13 25	6 50	84 00	228 85
ONTARIO:						
Beaverton	211 00	47 00	25 00	14 00	198 50	495 50
Brock	246 50	91 50	95 00	10 50	357 65	801 15
Pt. Perry, Reach & Scugog	185 00	78 00	27 00	31 00	132 50	453 50
Ramona	47 60	23 50	3 50	.....	30 85	105 45
Scott	157 00	66 00	20 75	35 00	157 00	435 75
South Ontario	486 00	183 00	104 00	80 00	579 50	1,432 50
Uxbridge	410 00	106 00	40 00	47 00	72 15	675 15

ANALYSIS OF PRIZE MONEY PAID BY AGRICULTURAL SOCIETIES.—*Continued.*

Societies.	Horses.	Cattle.	Sheep.	Swine.	Miscellaneous.	Total.
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
OXFORD:						
Drumbo	293 00	167 50	96 00	20 00	494 85	1,071 35
East Nissouri	98 50	35 50	5 75	.....	92 50	232 25
Ingersoll, N. & W. Oxford	122 50	54 50	51 00	21 00	161 00	410 00
North Norwich	150 50	122 50	40 00	16 00	291 00	620 00
South Norwich	157 00	38 50	39 50	31 00	216 90	482 90
Tavistock	239 00	36 00	51 00	42 00	310 50	678 50
Tillsonburg & Dereham	254 50	104 00	38 00	18 50	311 75	726 75
West Zorra & Embro	177 50	66 00	15 00	4 00	156 75	419 25
Woodstock	298 00	272 00	129 00	110 00	757 75	1,566 75
PARRY SOUND:						
Armour, Ryerson & Burk's Falls	221 00	126 00	55 50	18 00	283 75	704 25
Christie	34 75	11 75	3 50	7 00	71 50	128 50
Loring	35 50	62 00	35 50	14 50	150 00	297 50
Machar	48 75	25 50	31 50	3 00	136 50	245 25
Magnetawan	49 00	52 25	18 00	17 00	187 00	323 25
McKellar	93 50	56 75	28 25	36 50	191 25	406 25
McMurrich	145 75	67 75	19 75	21 50	140 90	395 65
Parry Sound	118 50	63 00	24 00	4 00	270 00	479 50
Perry	72 00	46 25	56 00	10 00	193 50	377 75
Powassan	60 50	58 50	41 00	8 00	194 75	362 75
Rosseau	64 50	49 00	10 50	4 00	112 75	240 75
Strong	57 00	64 00	55 00	3 00	213 75	392 75
United Townships	34 75	28 50	30 25	12 50	114 75	220 75
PEEL:						
Albion & Bolton	286 50	108 00	58 50	56 00	361 50	870 50
Caledon	175 00	47 00	30 25	6 00	291 75	550 00
Cooksville	280 00	59 50	45 00	25 00	266 50	676 00
Peel	381 00	104 00	115 50	62 00	752 75	1,415 25
Toronto Gore	(Spring Fair only)					
Toronto Tp.	410 50	184 75	69 00	12 00	480 05	1,156 30
PERTH:						
Elma	102 40	51 39	37 10	20 60	183 53	395 02
Fullarton, Logan & Hibbert	196 50	97 00	53 00	66 00	393 75	806 25
Kirkton	148 00	79 50	46 00	29 00	200 00	502 50
Listowel	86 50	53 50	40 00	26 50	223 30	429 80
Mornington	210 50	68 75	25 25	35 00	273 75	613 25
South Perth	138 00	69 50	69 50	34 00	356 00	667 00
Stratford	250 00	66 00	40 00	13 00	520 15	889 15
PETERBOROUGH:						
East Peterborough	158 00	321 00	128 75	45 50	410 90	1,064 15
Galway	30 75	12 25	16 25	.....	110 00	169 25
Lakefield	137 00	57 50	47 25	25 00	137 10	403 85
Otonabee	130 00	75 00	32 25	18 00	119 90	375 15
Peterborough Industrial	586 00	398 00	159 00	110 00	621 50	1,874 50
PRESCOTT:						
Alfred	73 00	52 50	19 00	8 00	134 80	287 30
South Plantagenet	124 65	64 00	9 25	8 15	67 20	273 25
Vankleek Hill	319 00	278 50	51 50	49 00	369 95	1,067 95
PRINCE EDWARD:						
Ameliasburgh	108 25	97 00	45 50	6 50	258 70	515 95
Prince Edward	453 00	173 00	151 00	74 00	654 25	1,505 25
Sophiasburgh	97 50	49 50	36 50	9 00	186 80	379 30
RAINY RIVER:						
Emo	265 00	76 00	44 00	47 00	259 20	691 20
RENFREW:						
Arnprior	415 50	33 00	.....	.....	.....	448 50
Cobden	98 00	61 00	20 00	28 00	185 50	392 50
North Renfrew	465 00	180 00	55 00	77 50	394 65	1,172 15
Renfrew	671 50	379 00	89 75	75 25	649 01	1,864 51
RUSSELL:						
Casselman	94 50	44 50	6 50	4 50	24 95	174 95
Clarence	130 00	50 50	15 00	6 00	82 15	283 65
Russell	212 00	145 00	46 50	28 00	176 75	608 25

ANALYSIS OF PRIZE MONEY PAID BY AGRICULTURAL SOCIETIES.—*Continued.*

Societies.	Horses.	Cattle.	Sheep.	Swine.	Miscellaneous.	Total.
	$ c	$ c.	$ c.	$ c	$ c.	$ c.
SIMCOE:						
Alliston	191 00	25 00	10 00	20 00	216 25	462 25
Barrie	353 00	88 00	109 00	29 00	642 50	1,221 50
Beeton	236 50	72 00	14 00	27 00	254 50	604 00
Bradford & W. Gwillimbury	204 00	17 00	37 00	19 00	376 65	653 65
Coldwater	109 00	78 00	36 50	15 00	208 00	446 50
Cookstown	248 00	89 00	64 50	24 50	343 00	769 00
East Simcoe	(No fair)					
Flos Tp.	178 50	40 00	33 00	17 00	271 60	540 10
Nottawasaga and G. Northern.	192 00	66 00	24 00	3 00	441 25	726 25
Oro	188 00	72 00	68 00	15 00	221 75	564 75
Tiny & Tay	193 50	30 50	44 00	14 00	353 00	635 00
STORMONT:						
Cornwall	241 50	175 25	44 75	13 00	412 25	886 75
Finch	52 25	12 50	2 75	.....	129 75	197 25
Roxborough	153 00	67 75	8 25	1 50	138 75	369 25
Stormont	87 00	85 75	25 75	2 00	136 30	336 80
SUDBURY:						
Massey	150 00	52 00	30 00	15 00	188 72	435 72
Warren	120 00	81 00	27 00	23 00	82 70	333 70
THUNDER BAY:						
Oliver	109 50	98 50	9 50	17 00	296 25	530 75
West Algoma	278 50	289 00	.....	.....	1,823 00	2,390 50
Whitefish Valley	28 00	43 00	2 50	.....	216 95	290 45
VICTORIA:						
Eldon	117 50	63 00	43 25	11 50	108 65	343 90
Fenelon	147 00	80 00	32 00	10 00	183 00	452 00
Mariposa	140 00	47 00	55 00	18 00	134 40	394 40
North Victoria	43 50	21 00	14 50	2 00	99 50	180 50
South Victoria	496 00	531 00	304 00	146 00	716 75	2,193 75
Verulam	192 75	109 00	30 75	29 75	216 35	578 60
WATERLOO:						
Elmira & Woolwich	143 00	53 00	.....	16 00	227 20	439 20
South Waterloo	373 00	148 00	192 00	37 00	634 75	1,384 75
Wellesley & N. Easthope	202 50	7 00	61 00	16 00	338 45	624 95
Wilmot	232 00	9 50	47 00	19 00	253 75	561 25
WELLAND:						
Bertie	212 00	143 00	39 00	6 00	294 00	694 00
Fenwick	209 50	81 00	47 00	12 50	373 75	723 75
Stamford & Niagara Falls	180 25	84 75	.....	.....	227 50	492 50
Thorold Town & Tp.	238 25	52 25	8 75	.....	179 60	478 85
Wainfleet	101 55	48 75	23 00	1 00	82 30	256 60
Welland	336 50	168 00	65 00	25 60	399 75	994 85
WELLINGTON:						
Arthur	151 50	65 00	22 50	15 00	259 25	513 25
Centre Wellington	265 50	196 50	33 00	15 00	384 25	894 25
Erin	330 20	171 00	57 50	18 00	467 80	1,044 50
Guelph & South Wellington	815 80	118 00	52 50	.....	1,563 30	2,549 60
Maryborough	81 00	42 50	6 00	.....	115 95	245 45
Mt. Forest	366 00	165 50	61 00	39 00	268 30	899 30
Palmerston	148 00	64 50	12 00	15 00	199 25	438 75
Peel and Drayton	126 00	53 00	38 50	30 00	196 00	443 50
Puslinch	137 50	34 00	48 50	7 00	243 25	470 25
Rockwood	204 00	83 50	37 00	.....	253 70	578 20
West Garafraxa	94 00	65 00	7 50	7 00	129 75	303 25
West Wellington	148 50	46 50	10 50	15 00	278 15	498 65
WENTWORTH:						
Ancaster	181 00	53 50	30 00	17 00	228 75	510 25
Binbrook	61 50	38 75	24 00	.....	122 50	247 75
Rockton	421 00	97 50	80 00	28 50	447 00	1,074 00
South Wentworth	520 75	79 00	94 00	23 00	727 75	1,444 50
Waterdown	179 00	85 00	32 50	20 00	354 00	670 50
West Flamboro	190 00	36 00	19 00	12 00	281 00	538 00

ANALYSIS OF PRIZE MONEY PAID BY AGRICULTURAL SOCIETIES.—*Concluded.*

Societies.	Horses.	Cattle.	Sheep	Swine.	Miscellaneous.	Total
	$ c.	$ c.	$ c.	$ c.	$ c	$ c
YORK:						
Markham	518 00	524 00	254 00	83 00	939 25	2,318 25
Newmarket	299 00	144 00	129 00	55 00	692 85	1,319 85
Queensville	158 00	65 00	51 00	7 00	179 00	460 00
Richmond Hill	277 00	47 00	49 00	31 00	108 00	512 00
Scarboro'	214 00	165 00	26 00	.....	404 75	809 75
Schomberg	286 00	83 00	87 00	33 00	348 80	837 80
Sutton	229 50	62 00	48 00	17 00	139 00	495 50
Weston, York & Etobicoke	175 00	35 00	40 00	15 00	348 00	613 00
Woodbridge	367 00	94 00	183 00	54 00	867 75	1,565 75
INDIAN SOCIETIES:						
Six Nations	110 10	42 50	9 00	9 00	204 90	375 50
Muncey-Tecumseh	(No returns)					
United Indians	44 50	20 00	.....	.....	103 05	167 55
CITIES:						
Central Canada (Ottawa)	10,475 00	4,738 00	1,101 00	1,220 50	5,927 67	23,462 17
Western Fair (London)	2,481 00	2,903 00	1,307 00	1,087 00	4,695 00	12,473 00
Totals	73,681 92	37,365 38	17,587 84	10,102 10	99,928 10	238,665 34

APPENDIX

TO

ANNUAL REPORT

OF THE

Agricultural Societies

OF THE

PROVINCE OF ONTARIO

1913

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS AND PRIZE-WINNING GRAIN AT WINTER FAIRS

THE CANADIAN NATIONAL AND CENTRAL CANADA EXHIBITIONS

(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE, TORONTO)

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APPENDIX

TO

REPORT OF AGRICULTURAL SOCIETIES, 1913

Results of Standing Field Crop Competitions and Lists of Winners in Grain and Sheaves at the Canadian National and Central Canada Exhibitions, and Guelph and Ottawa Winter Fairs.

The number of Societies which entered in the Standing Field Crop Competitions during 1913 shows a steady increase over the total of the previous year, and the widespread interest taken in them is manifest in the fact that societies are represented from not only all the older sections of Ontario, but from several districts in our new Northland as well. The advance made since 1907, when the first competitions were held is as follows: 10 Societies in 1907; 46 in 1908; 77 in 1909; 106 in 1910; 104 in 1911; 153 in 1912 and 159 in 1913.

This year 3,500 farmers entered fields comprising 35,000 acres. There are encouraging signs of increasing numbers of farmers paying more attention to the selection of their seed grain every year, and the proportion of them who treat it with formalin and other chemicals for the destruction of smut also grows larger. The necessity of this is shown by the reports of the judges that, even in a dry season like the past, there was too large an amount of smut found in the fields which were examined. Out of the one hundred and fifty-nine societies conducting these competitions, 111 entered in oats, 8 in barley, 3 in fall and 3 in spring wheat, 12 in potatoes, 20 in corn, and single entries were made in clover and peas.

The members of some twenty societies other than the above failed to make their individual entries, although the directors had decided to enter the competitions. It is usually bad weather conditions affecting the crops which is given by the members as the reason for not carrying out their intentions. It should be remembered, however, that all the members of each society compete among themselves, and all are, therefore, on an equal footing as regards the damage done by unseasonable weather in their locality.

Two important features in the successful carrying out of these competitions are (1) That all the competitors in a society sow their grain about the same time so that there be a reasonably uniform ripeness in the fields when judged. (2) That the crops be judged promptly as soon as all or very nearly all are ripe. If some are cut and the others standing in the fields, the work of the judge cannot be done in a satisfactory manner. The Department endeavours to do its part in having the judging speedily carried out by providing a large staff of judges, no less than 100 having been sent out this year, and, to avoid delay, no judge was given more than two societies' entries to score. In this way the work was rapidly and thoroughly accomplished, but, in spite of this, a few competitors in some societies had cut their grain before the judge's arrival.

The good work done in the past two years through the holding of a short course in field crop judging for the Departmental Judges at the O.A.C. Guelph was extended in 1913. The judges from Western Ontario attended a short course at Guelph and those from the Eastern part of the Province assembled at the Central Experimental Farm, Ottawa, where demonstrations and lectures by specialists

were given. These short courses are accomplishing valuable work in bringing about a more uniform system of judging field crops and in making the judges better posted in the identification of weeds.

The necessity for these field crop competitions is amply proved by the reports of the judges on the crops which they scored. Wild Oats have been getting more prevalent both in old and new Ontario. The procuring of seed grain from some of the Western Provinces has tended to the introduction of many old and some new weeds. Too little care is taken by many farmers to see that their grain is free from other varieties of the same or of other kinds of grain. The man who carefully selects his seed and sees that it is true to name, free from all mixtures and impurities, and gives his crop careful cultivation is sure of a splendid market for all he can produce at a price much above that realized for the ordinary run of grain.

The Department of Agriculture contributed $50 toward the prize money offered by each competing Society, the latter supplying $25, making in all $75.

The farmers who enter these competitions have every encouragement to do their best. In the first place, for the best standing grain in the field, in each society, there are offered seven prizes, ranging in value from $20 to $4. At the Canadian National Exhibition the prizes are $10, $9, $6 and $4 for two bushel sacks of oats, spring and fall wheat and barley; and for sheaf exhibits $8, $7, $6 and $4. Entries in these are confined to the first five prize winners in the field competitions. Prizes of the same value are offered at the Central Canada Exhibition. At the Guelph and Ottawa Winter Fairs, the following prizes are open to the same competitors: Oats, ten prizes from $30 to $3. Fall and Spring wheat, barley, peas, beans, corn, potatoes, clover, and alfalfa, five prizes for each, the lowest being $3 and the highest $20. These generous amounts should be sufficiently attractive to induce every society in the Province to enter these competitions. All a Society has to contribute is $25, one third of which is returned to it in the Annual Legislative Grant, and there is no charge made for services and expenses of the judges.

The members of an Agricultural Society have absolutely no expense, as their annual $1 membership fee entitles them to make entry in the competition, and the Government pays all express charges on grain and sheaves to the exhibitions mentioned above.

The grain and sheaves exhibited at the Canadian National Exhibition, Toronto, on a large pyramid in the Government Building, showed to the million people and over, who marvelled at the attractive display, that Ontario farmers can raise grain crops of a quality and plumpness not to be surpassed anywhere. There was also a very attractive exhibit of grain and sheaves at the Central Canada Exhibition, Ottawa.

The grain at the Guelph Winter Fair was remarkable not only for its high class quality, but for the fact that, for the first time in the history of these competitions, not a single wild oat or other noxious weed was found. The corn entered was displayed on raised stands, giving those who wished to examine the different varieties a good opportunity to do so. Exhibitors were requested to ship corn in boxes to save the shelling out which is inevitable when bags are used. There was a display of grain in glass jars and of corn in the ears and sheaves in connection with this exhibit, which rendered this section of the fair one of the most attractive in the building. The grain, other than that which won prizes, was sold almost entirely to individual farmers for excellent prices. The entries at the Ottawa Winter Fair were also numerous and of high quality.

J. Lockie Wilson, *Superintendent.*

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
ALGOMA.		(20)	(25)	(10)	(20)	(25)	(100)
NORTH SHORE AGR. SOCIETY.							
Judge—R. E. Mortimer, Honeywood.							
D. W. Fremlin, Bar River	Grogan	16½	17½	9	18	22	83
E. V. Evoy, do	Irish White	17½	17½	7½	16	22½	81
H. B. Taylor, Echo Bay	Waverley	14½	17	6½	17½	19	74½
Chas. Hurley, do	Mammoth Cluster	16	14	6½	15	21½	73
Geo. Brown, Bar River	Storm King	14½	14	8	12	21½	70
W. H. Evoy, do	Dodd's White	15	16	6½	12	20	69½
Jno. Booth, do	Storm King	14½	12½	7½	13	21½	69
Alex. Stewart, do	Banner	16	10	7½	16	19	68½
Alex. Brodie, do	Jewel	14½	18	4	10	21	67½
Herb. Lapish, do	Imp. Ligowa	14½	17	6½	10	19	67
Carson Moore, MacLennan	Dodd's White	16	15	6½	8	21½	67
J. A. Davidson, do	20th Century	15½	10	7	12	20	64½
A. L. Tuckett, Echo Bay	Jewel	14	10	6	10	19	59
Wm. Hollingsworth, Bar River	Early Jewel	15	.....	7	14	19	55
BRANT.							
PARIS AGR. SOCIETY.							
Judge—D. Smith, Smithdale.							
R. J. McCormick, Paris	Banner	18½	24	8	18	22½	91
Jno. McGill, Falkland	Silver Mine	17½	22	7	18	19½	84
Alex. Hall, Ayr.	Lincoln	17½	22	8	16	19	82⅓
David Patton, Paris Sta.	Silver Mine	18½	20	7	16	20½	82
Geo. L. Telfer, Paris, R.R. 2	Sensation	17	20	8	17	19	81
A. E. Parnell, Canning.	Silver Mine	18½	20	8	12	22	80½
D. A. Holmes, Paris, R.R. 2	White Monarch	17	19	7	16	21	80
Thos. Laughlin, Paris	Banner	17½	18	8	16	20	79½
Anthony Deans, Paris Sta.	do	18	17	7	16	21	79
Ivan Folsetter, Ayr	do	19	18	7	14	20	78
Fred. Luck, Paris, R.R. 2	do	16	20	8	16	17	77
Sam. Carr, Paris	do	15	18	9	16	19	77
Fred. Wells, Paris, R.R. 2	White Monarch	16	17	6	17	20	76
W. Webber, Paris Sta.	do	17	17	8	16	18	76
Jno. Doyle, do	Abundance	15½	18	7	16	19½	76
Jas. Givens, Canning	Banner	15½	17	7	18	18	75½
Jos. T. Scott, Paris Sta.	do	15½	18	7	15	19½	75
Frank Wells, Paris, R.R. 2	White Monarch	15½	17	6	18	18	74½
A. E. R. Pascoe, Paris Sta.	Sensation	15	18	7	16	18	74
Sutherland Bros., Paris	Scottish Chief	15½	22	6	12	18	73½
A. Sewell, do	Prince Royal	15	18	7	14	19	73
L. H. McAlister, Princeton, R.R. 2	Banner	15½	15	7	16	19	72½

* General appearance—Considering stand of crop, type of plant, vigor and uniformity of growth, method of seeding and absence of lodging.

† Yield and quality of grain—Considering proportion of well-filled heads of plump grain of good quality and uniformity of maturity.

NOTE.—The figures in parenthesis at the top of the table are the maximum scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
BRANT—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
PARIS AGR. SOCIETY.—*Con.*							
Sam. A. Pelton, Falkland	Silver Mine	15½	16	6	18	16	71½
W. W. Carr, Paris, R.R. 2	Banner	16	15	6	14	19	70
Wylie Guthrie, Paris	do	15	15	7	16	16	69
Wm. Simon, St. George, R.R. 1	Abundance	15	15	6	12	19	67
Wm. Hymers, Paris	White Jewel	16	15	6	10	19	66
SIX NATIONS AGR. SOCIETY. *Judge—D. Smith, Smithdale.*							
A. Russell, Hagersville	Mammoth Cluster	16	20	6	16	21	79
Chancy Garlow, Oshwekin	Banner	15	20	6	18	19	78
Jas. McNaughton, Newport	Reg. Banner	16½	20	7	16	17	76½
Hardy Miller, Oshwekin	Banner	15½	20	6	16	18	75½
Elias Styres, do	Irish White	16	18	7	16	18	75
Herb. Garlow, do	Banner	16½	15	8	16	19	74½
Wm. Smith, Jr., Burtch	White Derby	15½	18	6	14	16	69½
Chas. Johnston, Oshwekin	Banner	15½	10	8	16	19	68½
Geo. Smith, Burtch	Sterling	14½	17	6	15	16	68½
David John, Oshwekin	Silver Mine	15	12	8	16	17	68
W. H. Jamieson, do	Banner	14	20	6	12	16	68
Isaac Hill, do	do	16	15	7	12	17	67
Arthur Anderson, do	Silver Mine	13½	12	8	18	15	66½
Robt. Hill do	Siberian	16	12	6	14	18	66
Chas. Davis, do	Mammoth Cluster	16½	12	8	12	16	64½
Jno. Burning, do	White Derby	15	5	8	18	16	62
BRUCE.							
ARRAN AND TARA AGR. SOCIETY. *Judge—J. A. McDermid, R. M. D. Batteau.*							
Archie Crow, Tara	Manitoba	15½	23	7	17	20½	83
Jno. Bailey, do	Banner	14½	22	7	16	19	78½
J. W. Sinclair, do	Sterling	14½	19	7	15	18½	74
Wm. Couper, do	Sheffield Standard	13	15	8	15	17½	68½
W. C. Herron, do	Sterling	14	14	7	15	17½	67½
Jno. Hamilton do	Sheffield Standard	13	16	7	14	16	66
Neil McDougald, do	Great Dane	16½	17	5	15	12	65½
Andrew Gammie, do	20th Century	12½	15	6	16	15	64½
Jno. E. Dolphin, do	Silver Mine	12½	14	7	13	17	63½
Fred. J. Scarrow, do	Canadian King	13½	10	6	14	16	59½
CARRICK AGR. SOCIETY. *Judge—R. Murphy, Alliston.*							
M. Fischer, Formosa	Golden Flake	16½	23	9	18	20	86½
L. Waechter, Mildmay	Banner	16	23	8	18	21	86

NOTE.—The figures in parenthesis at the top of the table are the maximum scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
BRUCE.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
CARRICK AGR. SOCIETY.—*Con.*							
J. M. Fisher, Mildmay	Abundance	16	22	8	17	21	84
J. G. Thomson, do	Banner	16	19	8	18	21	82
A. Schmidt, do	Sensation	16	18	9	19	19	81
Mat. Weiler, Formosa	Tartar King	16	20	8½	16	20	80½
G. B. Armstrong, Teeswater	Banner	16½	19	7½	16	21	80
D. Fischer, Mildmay	do	15½	18	8	17	20	78½
Jno. Lints, Clifford	do	17	15	8	16	21	77
Thos. H. Jasper, Walkerton	Lincoln	16	15	7½	17	21	76½
C. H. Whyte, Clifford	Scottish Chief	17	15	8	15	21	76
CHESLEY AGR. SOCIETY. *Judge—J. A. McDermid, R. M. D. Batteau.*							
Richard McGill, Chesley	Sensation	15	16	8	16	20	75
Robt. Millburn, do	Bumper King	12½	22	6	17	16½	74
Jas. Crearer, do	Irish Victor	14	18	7	16	18	73
And. Thomson, do	Banner	14½	17	6	17	17	71½
S. K. Ewarth, do	Siberian	14	16	6	18	16	70
Peter McTavish, do	Banner	13	17	7	16	16½	69½
W. H. Kydd, do	Abundance	13	16	9	11	20	69
David Thomson, do	Irish Victor	13½	15	6	16	17½	68
Robt. Gillis, Elmwood	Banner	13½	17	7	13	16½	67
Jno. Wright, Chesley	Talbot	14	16	7	11	18	66
HEPWORTH AGR. SOCIETY. *Judge—N. C. MacKay, Walkerton*							
J. S. Matches, Park Head	Banner	18	20	8	17	22½	85½
D. W. Porter, Oxenden	Reg. Abundance	18	22	7½	17	20½	85
L. Schnurr, Park Head	White Marvel	17½	19	8½	17½	22	84½
Wm. Pringle do		17½	19	8¼	17½	21¾	84
C. H. Barfoot, Shallow Lake	Mammoth Cluster	16¼	20½	7½	18	21	83¼
Austin L. Baldwin, Oxenden	Silver Mine	16½	19	8	17	22	82½
A. W. North, Wiarton	Abundance	15½	20	8	16	21	80½
Wm. Winch, Hepworth	National	13½	19	8	17	20½	78
Dan. McDougall, Allenford	Great Dane	15½	15	7	13	21	71½
J. H. Barfoot, Shallow Lake	Purity	14¾	13	7	15	19½	69¼
HURON TP. AGR. SOCIETY. *Judge—Jno. Hamilton. Tupperville.*							
D. McDonald, Ripley	20th Century	17½	23	9	20	20½	90
Wm. Steele, Lochalsh	Emp. William	18	23	8	17	21	87
Thos. Scott, Amberley	Irish White	17½	23	8	17	19½	85
Jos. Calling, Ripley	do	16½	22	9	18	19	84½

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
BRUCE.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
HURON TP. AGR. SOCIETY.—*Con.*							
A. Johnson, Ripley	Irish White	17½	22	8	18	18½	84
R. H. Reid & Son, Reid's Cors.	Emp. William	17½	18	8½	18½	21	83½
W. C. Smith, Ripley	Irish White	16½	20	8	18	20	82½
Jno. L. Bowers, do	do	17	21	7½	18	18	81½
W. D. Bradley, Reid's Cors.	do	17	18	8	17	20½	80½
W. R. McDonald, Ripley	Abundance	12	22	8	18	19½	79½
Jas. Steele, Lochalsh	Emp. William	17	18	9	15	20	79
Geo. McGillivray, Ripley	20th Century	17	18½	8	17½	18	79
Jno. Reid, Reid's Cors.	Irish White	14½	15½	8½	18	20	76½
W. J. Rolston, Clover Valley	Reg. Banner	16	23	8	.....	18	65
LUCKNOW AGR. SOCIETY. *Judge—Jno. Hamilton, Tupperville.*							
Jno. McDiarmid, Lucknow	Abundance	17½	23	9	20	20½	90
W. R. Martin, do	do	18½	22½	9	19	20½	89½
Jno. McLeod, do	Danish White	17	23½	8	19	21½	89
Peter Watson, do	20th Century	17	23	8	19	21½	88½
A. E. Durnin, St. Helens	Abundance	15½	23	9	18½	22	88
McKenzie Bros., Lucknow	White Danish	16	24	8	18	21½	87½
D. K. Alton, Belfast	Banner	16½	23½	8	18½	20½	87
Jno. Finlayson, Lochalsh.	New Century	17	22½	6	17	22	84½
W. A. Wilson, Lucknow	20th Century	15	23½	8	19	18½	84
Sam. Phillips, Fordyce	Pride of Canada.	17½	22	6½	15	22½	83½
W. Henderson & Son, Lucknow	White Danish	16½	22	9	18	17	82½
Jas. Baird, do	Banner	15½	20	8½	17	19½	80½
Jas. Forster, do	Abundance	17	20	8½	15	19½	80
Jno. McKenzie, do	White Danish	14	20	8	19	18	79
Alex. McDiarmid, do	New Sensation	15½	20	8	18	17	78½
NORTHERN AGR. SOCIETY. *Judge—B. E. Foyston, Minesing*							
Albert Flack, Walkerton	Banner	17	23	9	19	22	90
W. A. Tolton, do	Imp. Banner	18½	20	9	18½	23	89
Jno. Smith, do	Wide-Awake	17½	20	7	18	23½	86
Jno. Mulilhausen, do	White Siberian	18	19	9	18	21½	85½
Jas. A. Lamb, do	Reg. Banner	16½	19	9	18	20½	83
Jno. Rapp, do	Banner	17	18	7	18	22½	82½
Jas. L. Tolton, do	Abundance	16½	17½	8½	18	20½	81
H. J. Earnest, do	20th Century	17	22	7	15	19½	80½
W. A. Rowand, do	Banner	17½	20	8	14	20½	80
G. E. Tolton, do	Siberian	16½	20	8	15	19½	79
Hy. Hossfeld, do	Imp. Banner	15½	15	7	15	19½	72
Wm. Morgan, do	20th Century	13½	15	7	18	18	71½
Jno. Whitehead, do	Banner	16½	.....	9	16	21	62½

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
BRUCE—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
PINKERTON AGR. SOCIETY.							
Judge—B. E. Foyston, Minesing							
Jas. A. Garland, Cargill	Banner	16½	24	8	17	22½	88
Jno. Stewart, Eden Grove	do	17	23	9	18	20½	87½
D. Pinkerton, Pinkerton	International	17	20	9	18	21	85
Hy. Young, Eden Grove	White Dane	18	17½	9½	16	23	84
N. Garland, Pinkerton	Banner	17½	17	9½	17	20	81
W. T. Stewart, Portal	do	16½	19	8	16	21	80½
W. T. Hopper, Paisley	Silver Mine	15	17	8	17	20½	77½
H. Sparling, Cargill	Great Dane	15½	18	6	17	20½	77
A. Garland, do	Mammoth Cluster	16½	20	7	15	18	76½
Alex. Carr, Portal	Amer. Banner	15	17	9½	15	19	75½
Geo. Chick, Pinkerton	Egyptian	16½	15	6	15½	19½	72½
Jno. Cruickshank, do	New Zealand	15	18	6	15	18	72
Thos. A. Chisholm, Dunkeld		16½	12	9	15	19	71½
TEESWATER AGR. SOCIETY.							
Judge—R. Murphy, Rosemount.							
Thos. Goodfellow, Teeswater	Golden Flake	17½	21	9	17	21	85½
Jos. McKague do	Bumper King	16½	20	9	18	20	83½
D. M. Grant, do	Golden Flake	17	19	9	18	20	83
Alex. McKague, do	Bumper King	16	20	8½	18	20	82½
Robt. Keith, do	Siberian	16	20	8	18	20	82
Wm. Moffatt, do	do	15	22	9	17½	18	81½
Jno. McRae, do	do	15	20	7	17	20	79
K. McKenzie, do	do	15	19	9	16	19	78
T. B. Aikin, do	Bumper King	16½	18	7	15	21	77½
J. S. Armstrong, do	Siberian	16½	14	8	18	20	76½
CARLETON.							
CARLETON CO. AGR. SOCIETY.							
Judge—H. Kingston, Empey.							
A. H. Foster, Twin Elm	Banner	18	22	8	18	22	88
G. R. Bradley, Kars	do	16½	23	7	19	20	85½
T. H. Seabrook, Richmond	do	16½	22	8	18	20	84½
Wm. Nixon, do	do	16	23	7	18	20	84
Jno. B. Wilson, Kars	Sterling	14	21	7	18	18	78
Frank Healey, Richmond	Banner	14½	22	7	14	19½	77
A. H. Acres, Hazeldean	do	14	18	9	17	18	76
Robt. Richardson, S. March	do	14	18	8	16	19	75
W. J. Findley, Richmond	do	14	18	9	16	17½	74½
Geo. Moore, do	do	12½	20	8	17	16½	74

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
CARLETON—*Continued*		(20)	(25)	(10)	(20)	(25)	(100)
FITZROY AGR. SOCIETY.							
Judge—L. Dillabough, Dunbar.							
Francis R. Gourlay, Kinburn ..	Banner	20	24	10	20	20	94
Arch. Riddell, Fitzroy	do	20	23	10	20	20	93
G. J. McBride, Kinburn	do	20	20	10	19	23½	92½
Geo. Owens, Antrim	do	20	20	10	19	23	92
Jas. Tait, Galetta	do	20	20	10	18½	23	91½
A. L. Stackhouse, Kinburn	do	20	20	10	18	23	91
J. L. Hunt, Galetta	do	20	20	10	17	23	90
Adam Halpenny, do.....	do	20	20	10	17½	22	89½
Alex. Tait, Galetta	Banner	20	20	10	17	22	89
Sam Gourlay, Kinburn	do	20	20	10	17	21½	88½
P. M. Herrick, Galetta	do	20	20	10	17	21	88
M. Colwell, do	do	20	19	10	17	21½	87½
J. Halpenny, Kinburn	do	20	19	10	17	21	87
Geo. Storey, do	do	20	18	10	17	21½	86½
Peter Grierson, Dirleton	do	20	18	10	17	21	86
R. A. Armstrong, Kinburn	do	20	18	10	16	21	85
METCALFE AGR. SOCIETY.							
Judge—M. J. Casselman, Morrisburg.							
S. J. Wood, Metcalfe	Imp. Am. Banner.	15½	24	8	19	22½	89
Geo. E. Tuttle, do	Sterling	16½	23	8	18	22½	88
Sam. Latimer, do	Banner	18	22	6	16	22	84
Jas. Ferguson, Dalmeny	Ligowa	17½	17	7	16	22½	80
T. B. Acres, Vernon	.....	17	17	6	14	22	76
E. Scharf, Pana	Great Dane	18	16	.....	15	20	69
T. Sullivan, Metcalfe	$1,000	14	16	4	15	19½	68½
W. Coombs, do	Prize Cluster	14½	14	6	13½	17½	65½
W. McRostie, Vernon	Banner	16½	18	.....	10	20½	65
F. T. Latimer, Metcalfe	20th Century	11	18	7	15	12	63
DUFFERIN.							
DUFFERIN AGR. SOCIETY.							
Judge—G. B. Little, Brown's Corners.							
Jos. Gillespie, Orangeville.....	.....	17	20	9½	19	21½	87
J. H. Jackson, do	Lincoln.....	16½	22	8½	17½	20½	85
Nelson Black, do	Prince Royal	16½	22	8	16½	21	84
D. C. W. Hughson, do	Early Cluster ...	15½	22	7½	18	20	83
J. B. Armstrong, do	.....	15½	19	8½	17	20	79
M. V. Armstrong, do	Lincoln	15½	16	8	17	20½	77
Robt. Little, Camilla	do	12½	20	7½	13	18	71
Wm. Morrow, Orangeville	Mammoth Cluster	15½	10	7½	16	21	70
Jno. Turner, Camilla	Rosedale	12	17	8	13	16	66
Isaiah Hammond, Orangeville..	Amer. Banner ...	14	10	7	16	18½	65½
C. G. Hughson, do ..	Prince Royal	13	8	7	15	20	63

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OATS.

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DUFFERIN—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
DUFFERIN CENTRAL AGR. SOCIETY.							
Judge—Wm. Scarf, Durham.							
Archie Greer, Perm	Reg. Abundance	15½	21	8	18	20	82½
Rice Hill, Whitfield	Abundance	16	20	8	18½	19½	82
W. A. Braiden, Shelburne	do	15½	20	7½	18½	20	81½
J. M. Moodie, Black Bank	Lincoln	14½	21½	8	20	17	81
R. M. Mortimer & Son, Honeywood	do	15	18	9	20	18	80
Jas. McKee, Whitfield	Siberian	15½	20	9	18	17	79½
Geo. Buchanan, Shelburne	Abundance	16½	18	7½	17	20	79
T. J. Watson, do	Rennie's White Wave	16	18	8	15	20	77
Geo. E. Foster, Honeywood	Lincoln	13½	18	9	17	19	76½
Major G. F. Gabriel, Shelburne	White Wave	14	19	8	15	20	76
A. E. Williams, Shelburne	Reg. Abundance	15½	17	8½	15½	19	75½
T. S. Ostrander, Redickville	Lincoln	13½	19	7	16	19½	75
Alex. McFarlane, Jessopville	White Wave	15	20½	7½	14	18	75
Lemuel Ostrander, Redickville	Sterling	14	18	7	15½	20	74½
Robt. J. Hall, Whitfield	Lincoln	14	18	7½	16	18	73½
Wm. Hudd, Horning's Mills	Irish White	13	17	8	17	18½	73½
EAST LUTHER AGR. SOCIETY.							
Judge—G. B. Little, Brown's Corners.							
Wm. Park, Hereward	Banner	17¼	18	7½	15	21	78¾
Jno. Wilson, Marsville	do	15	19	8	16½	19	77½
Geo. Gier, Waldemar	Reg. Abundance	15½	20	6½	16	18	76
Alex. Newson, Grand Valley	Ligowa	14½	19	8	14	19	74½
And. Richardson, do	Banner	13	19	7½	16	17	72½
R. H. Wansbrough, Laurel, R. R. 2	Prince Royal	13½	18	7½	15	18	72
Geo. Park, Grand Valley	Banner	15	15	8	14	19	71
Jas. Crane, do	do	12	21	7	13	17	70
W. E. Clayton, do		15	10	8	17	19½	69½
Alex. J. Blair, do	Banner	14	17	7	12	18	68
Jno. Warnock, Waldemar	Ligowa	13½	15	7	14½	16½	66½
Robt. Boyle, Wesley	do	13	8	7	14	17	59
DUNDAS.							
MOUNTAIN AGR. SOCIETY.							
Judge—R. L. Ramsay, Athens.							
Jas. Higginson, Inkerman	White Wave	16½	19	8½	18	20	82
Wm. Curriston, Inkerman	White Wave	16	17	8	17½	19	77½
W. Cleland, S. Mountain	Danish Island	16	17	8	16	20	77
W. Timmins, Inkerman	White Wave	15½	17	8	17¼	19	76¾

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS—*Con.*

OATS.

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DUNDAS—*Continued*		(20)	(25)	(10)	(20)	(25)	(100)
MOUNTAIN AGR. SOCIETY.—*Con.*							
Jas. Shannon, S. Mountain	Banner	16½	17	8	16	19	76½
Kenneth Graham, do	Danish Island ..	15½	17	8	16	19	75½
Chas. Shaver, do	do	14½	17	8	15½	19	74
Robt. Simser, do	.....	13	16½	7½	17	19	73
C. Montgomery, do	.....	14	16	8	16	18	72
Anson Graham, do	Danish Island ..	13½	18	8	14	18½	72
W. Johnston, do	do	15	15	8	16	18	72
WINCHESTER AGR. SOCIETY.							
Judge—W. J. Barber, Rossmore.							
Thos. Edgerton Winchester ...	Banner	16½	22½	8½	17½	21	86
Thos. Irving, do ...	do	17	22	8½	16½	21½	85½
Jno. Moffat, do ...	Daubeney	17½	20½	8	17	21½	84½
S. R. Fulton, do ...	White Siberian .	16	21	8	17½	18½	82
D. Christie & Son, do ...	Banner	13½	21½	8	17	19	79
Thos. Moffat, do ...	do	17	18	8½	12	20	75½
Ira Christie & Son, do ...	do	11½	18	8	18	19½	75
Jas. Scott, do ...	do	14½	18	8½	14	19	74
R. A. Justus, do ...	do	13½	18	8½	15	18½	73½
W. J. Steele, do ...	20th Century ...	13½	15½	7½	16	19	71½
J. E. Hutt, do ...	do ..	17	17	8	8½	20	70½
T. B. Acres, Vernon	Banner	13	15½	7½	17	17½	70
Rodman Amable, Winchester ...	do	14	12½	8½	17	17½	69½
Alex. Simmers, do ...	do	10½	18	8	16	15½	68
Ward Bilow, do ...	do	11½	12½	8½	18½	14	65
DURHAM.							
CARTWRIGHT AGR. SOCIETY.							
Judge—Jas. McNeil, Maple.							
Jno. P. Trewin, Blackstock	Sterling	18	20	8½	18	22	86½
Albert Wright, do	White Derby	16	22½	8	17	21	84½
Jno. Wright, do	do	16	21	8	18	20½	83½
Hy. Mountjoy, Burketon	Sterling	14½	22	7	18	19	80½
Fred. Taylor, Blackstock	Prince Royal ...	15½	19	8	18	19	79½
Anson Taylor, do	do	16	18	7	18	20	79
Luther E. Mountjoy, Burketon.	Irish White	15	20	7	17	19½	78½
Jno. Mountjoy, Nestleton	Gold Drop	15½	18	7	17	20	77½
C. Devitt, Burketon	Great Dane	15½	16	7	18	20	76½
Norman T. Taylor, Blackstock .	Prince Royal ...	12	22	8	17	17	76
MILLBROOK AGR. SOCIETY.							
Judge—Jas. McNeil, Maple.							
W. F. Fallis, Millbrook	Sterling	18	23	8	18	23	90
W. R. N. Sharpe, do	Sensation	17	23	8	18	21	87

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OATS.

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DURHAM—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
MILLBROOK AGR. SOCIETY.—*Con.*							
David Sutton, Millbrook	White Giant	16½	23	8	18	21	86½
Jos. Hamilton do	Reg. Banner	16½	22	8	19	20½	86
T. A. Kelly, do	do	15½	22	8	20	20	85½
Bruce Sharpe, Ida	$1,000	18	23	8	18	18	85
Nathaniel Belch, Millbrook	Reg. Banner	16½	21	8	17	22	84½
Robt. McCammus, Ida.		16½	22	8	16	20	82½
A. J. Fallis, Millbrook	Daubeney	17½	20	8	17	19½	82
Wilbert Walsh, do	White Champion	15½	20	8	17	21	81½
A. J. Henderson, do	White Giant	15	21	8	17	20	81
Geo. Brown, do	Dewdrop	15	20	7	19	19½	80½
H. Ball, do	Sterling	14½	17	8	19	19	77½
Robt. McKnight, do	Dewdrop	12	22	8	17	16½	75½
PORT HOPE AGR. SOCIETY.							
Judge—E. B. Purtelle, Bloomfield.							
H. A. Walker, Port Hope, R.M.D. 2	Reg. Banner	18	21	10	19	24	92
Thos. Barrie, Canton	Sensation	18	24	9	17	23	91
R. T. Houldsworth & Son, Port Hope	Reg. Abundance	13	25	10	20	18	86
A. Walsh & Son, Perrytown	Banner	16	23	6	18	21	84
Wm Westington, Port Hope	do	16	20	7	20	20	83
Wm. Berry, Welcome	do	16	16	8	14	21	75
A. E. Meadows, Port Hope	Prolific	14	17	8	15	20	74
Geo. Houldsworth, Cobourg	Abundance	13	18	8	15	19	73
Thos. Coyte, Port Hope	Waverley	14	16	8	16	18	72
Hy. Ruske, do	Banner	13	15	7	14	20	69
ELGIN.							
SHEDDEN AGR. SOCIETY.							
Judge—I. B. Whale, London.							
J. Holden, Fingal	White Cluster	18	23	9	18	23½	91½
E. C. Gilbert, St. Thomas, R.R. M. 7	Abundance	17	24	8	19	22½	90½
H. S. McDiarmid, Fingal	Siberian	18	23	8	18½	22	89½
W. Miller, Shedden	Prince Royal	17	23½	8½	17½	22½	89
J. C. Telfer, Southwold	White Lothian	15½	24	9½	19½	20	88½
H. O. Berdan, Frome	Scottish Chief	15½	24	8½	18	21½	87½
Dan. Graham, Iona Sta. R.R. 3.	Amer. Banner	16	20½	9	18	22½	86
W. Pearce, Iona Station	Dodd's White	16½	21	6½	18	22	84
Jno. Orchard, Shedden	Golden Drop	13½	23	8½	18	18¾	81¾
Wm. Telfer, Southwold	White Lothian	13½	20	9½	19½	18½	81

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OATS.

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ELGIN.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
S. DORCHESTER AGR. SOCIETY.							
Judge—Robt. Berry Berrylands.							
S. P. Charlton, Springfield	Abundance	17	23	9½	20	22	91½
C. W. Charlton, do	White Bonanza .	18	21½	8½	20	23	91
Vernon Farrow, do	Garton's Abund..	18	22½	8½	18	23	90
D. Clapton, Brownsville	do	17	23	9½	18½	21½	89½
Geo. W. Smith, do	Banner	16½	23	9	18	22	88½
Geo. Kilgour, Springfield	Abundance	16½	20½	8½	19	20½	85
D. E. Shively, do	White Giant ...	17	22½	4	19	22	84½
S. Charlton, do	W. Siberian	18	17	9	14	23	81
Sam. Dawes, do	Swedish Giant ..	17	20	8	13½	21½	80
Clinton Charlton, do	Storm King	16	21½	9	12	20	78½
J. A. Moore, Mapleton	Banner	16½	17	8½	15	21	78
Elgin Moore, Springfield	Abundance	13	21	6½	17	19	76½
FRONTENAC.							
KINGSTON TP. AGR. SOCIETY.							
Judge—W. F. B. Switzer, Streetsville.							
Michael Fowler, Glenburnie ...	Banner	17½	21	8½	18½	21	86½
W. J. Smyth, Cataraqui	do	16½	22	9	18	20½	86
Jas. J. Keyes, do	do	16½	20	8	19½	21½	85½
H. J. Simpson, do	do	15½	20	9	19	21½	85
A. J. Asselstine, Williamsville .	Dewdrop	17	20	8	18	21½	84½
Thos. Gardiner, Cataraqui	Banner	15½	20	9	19	20½	84
Arthur Day, Williamsville	.....	16½	20	9	17½	20½	83½
J. E. Wilder, Bath Road	Dewdrop	15½	19	8	17	20	79½
Jas. L. F. Sproule, Westbrook ..	Banner	16	20	7½	16	19	78½
R. N. Polk, Bath Road	do	16½	18	8	17	18	77½
A. E. Weller, Kingston Sta.	Abundance	16	17	7½	17½	19½	77½
F. Truedale, Collins Bay	Manitoba	14	19	8	18	18	77
Benson Coulter, Glenburnie	Banner	14	21	7	16	18	76
GLENGARRY							
KENYON AGR. SOCIETY.							
Judge—W. J. Barber, Rossmore.							
Jas. Vallance, Dominionville ...	Reg Banner	17	22½	7½	18	20	85
W. Campbell, Athol	Banner	16½	21	6	18½	21½	83½
J. J. Campbell, Athol	Banner	16½	20½	8	16½	20½	82
W. F. Campbell, do	do	13½	19½	7½	18½	19½	78½
A. D. Munroe, Maxville	.....	15½	19	7½	18	18	78
Peter McGregor, St. Elmo	Banner	14½	19	7½	16½	18½	76
Thos. Blaney, Maxville	do	12½	21	6	18	17	74½

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
GLENGARRY—*Continued*		(20)	(25)	(10)	(20)	(25)	(100)
KENYON AGR. SOCIETY.—*Con.*							
Chas. Blaney, Maxville	Banner	12½	19½	7	17	18	74
Chas. Morrow, do	do	15½	18	8½	16	16	74
J. J. Kennedy, do	do	13½	22	5	17½	16	74
W. J. Kennedy, do	do	12½	21½	6	18	15½	73½
A. A. & F. F. Campbell, Maxville	do	13½	18	6½	16½	18	72½
W. E. McKillican & Son, St. Elmo	do	12½	15	8½	17	18½	71½
ST.. LAWRENCE VALLEY AGR. SOCIETY.							
Judge—H. Kingston, Empey.							
Wm. Wightman, Lancaster	Banner	17½	22	9	19	21	88½
A. A. McLennan, do	White Irish	16	22	8	20	21	87
W. J. Clark, do	Banner	16½	23	8	19	20	86½
W. J. Snyder, Bainsville	do	14½	23	8	19½	19	84
W. G. Harland, Williamstown	do	16	22	7	18	20	83
D. R. McCrimmon, Lancaster	do	16	20	9½	17	20	82½
Thos. Monroe, do	White Irish	14	21	8	17	20	80
Alex. Ross, Williamstown	.....	13½	22	7	17	20	79½
Wm. Mitchell, Bainsville	White Siberian	14	23	6	17	18½	78½
Jas. Sangster, Lancaster	Siberian	15½	17	8	18	19½	78
Jas. D. McLennan, do	Mortgage Lifter.	13	21	8	15	20	77
Geo. Wightman, do	Banner	17	15	9	14	21½	76½
J. J. Sangster, do	do	15	15	8	14	19	71
GREY.							
AYTON AGR. SOCIETY.							
Judge—H. B. Webster, Rannock.							
Jas. Booth, Ayton	Sterling	19½	23	9	19	22½	93
Jno. B. Fischer, do	20th Century	17½	24½	9	19	22½	92½
Geo. L. Feich, do	Banner	18	23½	9	19	22½	92
Jas. Zettler, Neustadt	Lincoln	18½	22	8	18½	22	89
Jno. Gassel, Ayton	New Zealand	18½	24	9	14½	22	88
Jno. D. Werner, do	Siberian	16½	24	9	18	20	87½
Fred Grein, do	Banner	17½	24	9	15	21½	87
Fred. Liesmer, Molkte	do	18½	17	8	14	22½	80
Jacob A. Kreutzer, Alsfeldt	do	17	21	8	15	18½	79½
Dan. Kraft, Ayton	Mammoth Cluster	15	22	9½	15	17½	79
Wm. Hapf, do	Ligowa	15½	17	8	14	20½	75
Louis Weber, do	Sterling	14	22	6½	18	14	74½
Valentine Grein, Ayton	Big Four	17	10	9	12	19	67

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
GREY.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
COLLINGWOOD TP. AGR. SOCIETY.							
Judge—J. N. McGill, Cavan							
Foster Bros. Clarksburg	Lincoln	15½	23	7	19	22	86½
Geo. Mitchell, do	Banner	13	22	6	18	20	79
Alex. McGowan, do	do	12½	22	7	17	20	78½
Elisha Parkinson, do	Banner	14½	19	8	16	20½	78
Elias Thompson, Heathcote ...	do	12½	22	6	17	19½	77
Robt. McGill, Ravenna	do	14½	15	8	15	23	76½
Jas. A. Conn, Heathcote	do	13	20	6	15	20½	74½
Jno. Hogg, do	20th Century ...	12½	20	6	15	20	73½
W. H. Matthews, Clarksburg ..	Banner	11½	15	7	18	20	71½
Arthur C. Johnson, do ..	do	13	12½	6½	17	21	70
Jos. E. Alexander, do ..	do	13	15	6	16	19	69
B. Carefoot, Ravenna	do	12½	16	5	15	20	68½
EGREMONT AGR. SOCIETY.							
Judge—W. J. Hamilton, Raymond.							
J. A. Swanston, Holstein, R.R. 1	Banner	15	24	8	19	20	86
J. Calder, Holstein	Siberian	16	23	7	19	18	83
A. Hunter, do	Banner	16	20	9	17	20	82
Jno. R. Philp, do	do	12½	24	8	19	18	81½
W. M. Groat, do	Canadian Pride .	17	20	9	15	20	81
W. J. Reid, do	White Danish ..	17	20	8	16	19	80
W. W. Ramage, do	Scottish Chief ..	13	24	8	16	18½	79½
J. A. Smith, do	Canadian Pride .	12	23	8	19	17	79
Jno. A. Ferguson, do	White Russian ..	12	23	8	18	17	78
Jno. McArthur, do	Banner	10	22	5	17	20	74
W. J. Rogers, do	Canadian Pride .	12	20	8	15	17	72
Chas. W. Rabb. Mount Forest ..	Banner	11	15	9	16	17	68
KEPPEL AGR. SOCIETY.							
Judge—Joseph Orchard, Minesing.							
Homer Hurlburt, Kemble	White Derby ...	14½	23	9	18½	20½	85½
Morris Bedell, do	do ...	14	23	7½	19	18	81½
Geo. McKenzie, Jr., do	Lincoln	15½	17	8	19	20½	80
Vanstone Bros., do	White Derby ...	14	20	8	18	19	79
Chas. Johnston, do	Banner	11	20	5	17	16½	69½
Jno. Taylor, do	Sheffield Standard	14½	13	7½	16	18	69
Chas. Garvie, do	Banner	12½	16	6½	15	18	68
Alex. Taylor, do	do	13½	12	7	16	18½	67
Michael Sutherland, do	Silver Mine	14	12½	6	15	19	66½
J. E. Johnston, do	Banner	11½	13½	5	15½	19½	65

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
GREY.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
KEPPEL AGR. SOCIETY.—*Con.*							
Frank Davidson, do	Sterling	11½	12	5	17	18½	64
Daniel Davidson, do	Sheffield Standard	11½	17	2	17	16	63½
Douglas Davidson, do	Banner	10	14	8	15	15½	62½
W. J. Shaw, do	20th Century	8½	18	4	17	14	61½
Thos. Johnston, do	White Derby	10	12	5	16	18	61
R. R. Tupper, Lake Charles	Sheffield Standard	11½	12	3	18	16	60½
Sam. Agar, Presqu' Isle	Ligowa	11	18	3	12	16	60
KILSYTH AGR. SOCIETY.							
Judge—Joseph Orchard, Minesing.							
Alex. Forgrave, Jackson	Lincoln	18	21	8½	18	21	87
Albert Fleming, Tara, R.R., 5 ..	Banner	13½	23	8	19	19	82½
Ernest Fleming, do	Ligowa	16	19	7½	19	20	81½
Wm. Breen, Tara, R.R., 5	Silver Mine	16	20	7	18	19½	80½
W. H. Marshall, Jackson	Ligowa	14½	20	8	16½	18	77
R. E. Linn, Owen Sound, R.R., 3	Manitoba	14	17	8	17½	19	75½
D. Waddell, Tara, R.R., 4	do	16	18	2	15	20	71
Robt Linn, Owen Sound, R.R., 3	Banner	12	17	8	15	18	70
Boyd Porteous, do	Manitoba	14½	14	7	16	18	69½
Geo. Wylie, Kilsyth, ...	Mammoth Cluster	10½	17	6	14	19	66½
Alex. Garvie, Tara, R.R., 4	Manitoba	14	12	6	16	18	66
Peter Garvie, do ..	do	9½	13	6½	16	18	63
NORMANBY. AGR. SOCIETY.							
Judge—H. B. Webster, Rannoch.							
Jno. Bickel, Neustadt	Banner	18	22	8	17	22	87
J. W. Hellwig, do	Danish Island ..	16½	24	8	19	18½	86
Conrad Russman, do	Banner	16	20	9½	15	19½	80
Hy. Boettger, do	20thCentury [land	15½	19	6	18	21	79½
Hy. Hill, do	Early New Zea-	15	24	7	15	17	78
Anthony Weber, do	Great Dane	17½	15	6	19	19	76½
Conrad Wisemann, do	White Main	14½	20	6	18	17	75½
Nicholas Weber, do	Ligowa	16	5	9	17	20½	67½
C. P. Diebel, do	Daubeney	18	5	6	16	22	67
Fred. Klagues, do	Lincoln	13½	13	9	14	15	64½
Valentine Fisher, Carlsruhe ...	Mammoth Cluster	13	13	8	13	17	64
OSPREY AGR. SOCIETY.							
Judge—J. N. McGill, Cavan.							
Elijah Buckingham, Feversham.	Banner	16	20	8	17	22½	83½
F. H. Burk, Maxwell	Reg. Abundance .	13½	23	8	18	20½	83
J. A. Kernahan, Feversham ...	do .	14	21	7	19	20	81

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

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GREY.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
OSPREY AGR. SOCIETY.—*Con.*							
Alex. Ferguson, Maxwell	Banner	12	20	8	17	20	77
Hugh Fenwick, Feversham	Reg. Abundance	13½	15	7	18	20½	74
Angus Morrison, Maxwell	Banner	13½	15	7	17	20½	73
R. J. Allister, Feversham	do	12½	14	9	17	19	71½
Jos. Allison, Maxwell	20th Century	14	12½	6	16	20½	69
Herb. Hawton, Feversham	Banner	10	15	7	15	17½	64½
W. H. Guy, Maxwell	New Derby	11	15	5	15	18	64
PROTON AGR. SOCIETY.							
Judge—Wm. Scarf, Durham							
A. Hanna, Dundalk	Dewdrop	15½	21	7½	18	20	82
R. J. Hendry, do		15½	20½	8	17	20	81
J. A. Montgomery, do	Abundance	16	21	9	15	19½	80½
J. A. Russell, do	B. C. B.	16	19	8½	16	20	79½
J. W. Christie, do	Mitchell's Cluster	17	18	8	15	21	79
W. H. Russell, do	B. C. B.	17½	14	9	17	20	77½
Rich. Cronin, Kingscote		14½	19	9	16	18	76½
J. A. Scott, Dundalk, R.R., 1	Scottish Chief	15½	18	8	15	19	75½
Chas. Gillies, Cedarville,	English Glory	14½	16	9	16	19	74½
J. Grummett, Wareham	Sheffield Standard	16	14	9	16	19	74
Walter Carson, Dundalk		14	21	9	12	18	74
SOUTH GREY AGR. SOCIETY.							
Judge W. J. Hamilton, Raymond.							
Archie Park, Hanover, R.R., 1	Banner	17	24	7	19	21	88
Wm. L. Dixon, Varney, R.R., 1	do	17	23	6	20	21	87
Daniel Edge, Durham, R.R., 1	Siberian	17	21	8	19	20½	85½
W. Scarf, Durham	Reg. Banner	15	23	9	19	17	83
A. D. Edge, Durham, R.R., 1	Sheffield Standard	15	24	8	17	18	82
A. J. Greenwood, do	Banner	17	22	5	17	20	81
Thos. McGirr, do	Canadian Pride	14½	23	7	19	17	80½
R. A. Edwards, Ebordale	Mammoth Cluster	15	22	9	17	17	80
Smith Bros., Durham	Canadian Pride	16	22	6	17	17	78
Wm. Weir, Durham, R.R., 1	do	13½	22	6	18	18	77½
W. A. Livingstone, Hanover, R. R., 1	Bumper King	12½	23	7	18	16½	77
H. W. Hunt, Vickers	Prince Royal	13½	22	8	16	17	76
Matthew Barbour, Varney	Scottish Chief	11	23	7	18	17	76
T. H. Binnie, Bunessan	$1,000	12	22	9	15	17	75
J. W. Blythe, Varney	New Sensation	14	15	7	15	19	70

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

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HALDIMAND.		(20)	(25)	(10)	(20)	(25)	(100)
CALEDONIA AGR. SOCIETY.							
Judge—J. D. McKenna, Loretto.							
H. McMorran, Willow Grove	Reg. Abundance	17	22	7	16	21	83
Alex. Cowie, Caledonia	Reg. Banner	17	24	6	16	19	82
Jas. Douglas, do	do	16	22	6	16	21	81
R. F. Duncan, Ancaster	do	16	22	6	16	20	80
W. A. Douglas, Caledonia	do	15	19	6	16	21	77
W. J. Gringer, do	Siberian	15	20	6	16	18	75
J. B. Calder, Carluke	do	14	20	6	16	18	74
Jas. Forbes, Caledonia	Silver Mine	13	19	6	16	19	73
Jno. F. Nelles, York	do	13	19	6	15	19	72
Alex. Forbes, Caledonia	do	15	14	6	15	21	71
HALDIMAND AGR. SOCIETY.							
Judge—L. Cascadden, Aylmer, W.							
Nicholas Last, Cayuga	Dodd's Prolific	20	22	8	16	22	88
And. Mehlenbacher, do	.....	19	20	8	15	21	83
Jake Folville, do	Great Dane	16	21	6	17	22½	82½
Thos. Shipway, Deans	Famous	17	17	8	18	22	82
Geo. Murray, Cayuga	Dodd's Prolific	17	20	7	15	21	80
H. T. J. Gardener, do	Great Dane	17	20	5	17	20	79
A. Walker, do	Banner	17	18	7	18	18	78
Jno. McConnell, do	do	17	19	5	16	19	76
J. A. Williamson, do	Great Dane	16	19	6	16	18	75
Peter Windeshee, do	National	14	20	8	18	14	74
Geo. W. Parsons, do	Silver Mine	16	18	8	15	13	70
L. W. Wilson, Kohler	White Main	15	20	7	10	15	67
SOUTHERN BRANCH AGR. SOCIETY.							
Judge—L. Cascadden, Aylmer, W.							
David Culver, Rainham Centre	Banner	19½	23	8	18	23½	92
Albert Nagel, do	Silver Mine	16	24	10	18	22½	90½
W. Beabim, do	Mammoth Cluster	19	23	8	18	21½	89½
Jos. Featherstone, do	Amer. Banner	19	22	8	18	22	89
J. H. Schweyer, Fisherville	Early Yielder	17	24	8	18	21	88
G. H. Yocum, Selkirk	Banner	18	20	8	18	20½	84½
Wm. Roth, Fisherville	Newmarket	14	25	7	18	20	84
Freeman Schier, Rainham	Dodd's Prolific	19	20	6	17	21	83
G. A. Fitzgerald, Rainham Cen.	Big Four	15	21	8	19	19½	82½
Stephen Culver, Rainham	Dodd's Prolific	16	23	8	17	21	85
Frederick Hoover, Fisherville	Russian Giant	15	23	8	16	20	82
Jno. Ranch, Rainham Centre	Dodd's Prolific	17	20	7	16	21	81
Martin Nagel, do	Silver Mine	16	20	6	18½	20	80½
Frank Fleming, Nanticoke	Mammoth Cluster	18	20	7	14	21	80
W. Wessner, Rainham Centre	Empire	13	20	8	17	19½	77½
L. Cline, Fisherville	do	16	18	7	15	14	70

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OATS.

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HALTON.		(20)	(25)	(10)	(20)	(25)	(100)
HALTON CO. AGR. SOCIETY.							
Judge—C. W. Buchanan, Dutton.							
Thos. Atkin, Milton	Banner	16¾	22	8	18¼	22½	87½
H. W. Richardson, Lowville	Irish White	17	21	7½	18	22½	86
Geo. E. Gastle, Milton	Great Dane	16¾	22	6¾	18	22¼	85¾
R. Patterson, Zimmerman	White Wave	14¾	23	8	18	19½	83½
Jas. H. Wilson, Milton	Banner	15	22	8	18	20	83
Wm. Hume, do	White Lothian	17	17	8	18	22½	82½
Jno. McKenzie, Omagh	Scottish Abundance	15¼	22	8	16	19½	80¾
W. T. Inman, Milton	White Wave	15¼	18	7¼	17	19½	77¼
Jno. Cartwright, Zimmerman	20th Century	14¼	22	6½	16	16	74¾
Geo. B. Ellenton, Lowville	do	14¾	18	6¾	16	18¼	73¾
Ed. McCann, Omagh	Banner	15¾	15	7½	15	19	72¼
W. McCartney, Boyne	Abundance	13	20	7	18	14	72
N. Sinclair, Zimmerman	White Giant	13¾	18	7	17	15¾	71½
A. Lawson, Milton	Banner	13½	17	6¾	17	16¾	71
Homer Dixon, do	do	14½	15	7½	17	17	71
Douglas Brass, Boyne	Abundance	13¼	16	7	17	17½	70¾
H. Bennett, Carlisle	Great Dane	13¼	18	7	18	14	70¼
J. Featherstone, Lowville	do	13¾	18	6½	16	16	69¾
Chas. Butts, do	do	13	18	7	16	15	69
Hy. Wilson, Georgetown, R.R., 2	Sovereign	14	15½	7	16	16	68½
P. Kennedy, Acton	Banner	13	16	7	16	16	68
W. Readhead, Lowville	Great Dane	12½	17	7	15	15½	67
HASTINGS.							
FRANKFORD AGR. SOCIETY.							
Judge—J. C. Steckley, Newmarket.							
H. J. Gay, Frankford	White Danish	18	24	9	19	21	91
D. J. Rose, do	Sensation	17½	24	8	18	22½	90
C. H. Ketcheson, Belleville, R.R.	Waverley	18	21	10	19	20	88
F. R. Mallory, Frankford	Lincoln	18	21	9	17	21	86
D. E. Coon, do	do	16	19	10	17	21½	83½
C. Vandewater, do	Banner	17	15	10	18	23	83
P. E. Bonnisteel, do	Sensation	17	18	8	18	21½	82½
Geo. Nicolson, Belleville	Sheffield Standard	15	19	9	20	18	81
J. C. McCauley, Frankford	Sensation	15½	22	7	18	18	80½
Wm. Bush, Stirling	Swedish Giant	16	18	8	16	20	78
M. F. Sullivan, Frankford		14	17	9	19	17	76
MADOC AGR. SOCIETY.							
Judge— W. L. Graham, Britannia Bay.							
J. A. Caskey, Madoc	Banner	19½	20	8½	18	23¾	89¾
W. T. Harris, do	do	17	22	8½	19	23	89½

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OATS.

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HASTINGS.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
MADOC AGR. SOCIETY.—*Continued.*							
W. H. Kells, Madoc	Banner	18	22	9	18½	21½	89
Jno. Rollins, Cooper	Mammoth Cluster	18½	23½	8	16½	21	87½
Geo. A. Harris, Hazzards	do	17	23	8	18	21	87
Fred. Comerford,, Eldorado	Banner	15	21½	8	18	23	85½
H. Rollins, Cooper	20th Century	14½	20	8	18	23½	84
J. A. Ketcheson, Madoc	Banner	16	19	8	18½	21½	83
W. T. Tummon, Crookston	do	14½	20½	7½	18	22	82
W. T. Allen, Cooper	Mammoth Cluster	15½	22	8	14	22	81½
A. H. Forestell, Madoc	White Wave	14½	20	6½	18	22	81
C. J. Smith, do	20th Century	16	19	5	17	23½	80½
G. A. Ketcheson, Eldorado	Great Dane	14½	21	7	17	20½	80
H. J. Tokley, Queensborough	do	9½	22	7	18	20	79½
MAYNOOTH AGR. SOCIETY. *Judge—J. N. Sorley, Cumming's Bridge.*							
Jno. McAlpine, Maynooth	Banner	16½	23½	5	17	22	84
Jas. McAlpine, Jr., do	do	15	23	5	18	18	79
C. J. H. Jordison, Monteagle Valley	Newmarket	14	22	5	18	19½	78½
Chas. Kelusky, Maynooth	Banner	12	23	6½	19	17½	78
Robt. Davis, Greenview	Great Dane	13½	21	5	19	18½	77
W. J. Douglas, do	Bumper King	15	18½	8	14	20½	76
Jas. McAlpine, Sr., Maynooth	Banner	14	20	7	16½	18	75½
Jas. A. Savoy, Greenview	Great Dane	13½	22	8	13	18	74½
Frank Cassidy, do	Banner	13	22	8	13½	17	73½
J. J. Deady, Maynooth		11	21½	5	16½	18	72
STIRLING AGR. SOCIETY. *Judge—W. L. Graham, Britannia Bay.*							
C. V. Heath, Stirling	Banner	19	22	9	20	23	93
Clayton Tucker, do	Selects	18	23	8	19	23½	91½
Thos. Montgomery, do	Banner	17	23½	7	19	23½	90
Jas. A. Bailey, do	do	18	21½	9	18½	22½	89½
M. W. Sine, do		19½	19	8½	18	24	89
Alex. Fargey, do	Banner	17	22	8	19	22	88
C. W. Thompson, do	do	17	21	7½	19	22½	87
Thos. Solmes, do	do	14½	23	9	19	20	85½
WOLLASTON AGR. SOCIETY. *Judge—J. N. Sorley, Cumming's Bridge.*							
D. Moore, The Ridge	Banner	16	22	8	18½	20	84½
C. McGregor, do	do	14½	21½	7½	18	19½	81

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
HASTINGS—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
WOLLASTON AGR. SOCIETY.—*Con.*							
D. Henderson, Jr., The Ridge ..	Banner	16	21	7	17	19	80
R. J. Henderson, do	do	14½	20	8	18½	18½	79½
D. Maitland, do	do	14½	21½	7	18	18	79
R. Hoard, do	do	13½	20	7	18	18	76½
A. Currie, Coe Hill	do	12	23	8	16	16½	75½
Robt. Thompson, The Ridge ...	do	11½	22	6	18	17½	75
Jno. Gilroy, Coe Hill	do	11½	20	8	19	16	74½
F. Leveridge, do	do	11½	22	7	15	17½	73
Thos. Blackburn, do	do	13	20	8½	13	17	71½
B. King, do	.....	7½	23	4½	15	15	65
HURON.							
E. HURON AGR. SOCIETY.							
Judge—T. W. Lennox, Toronto							
R. J. Hoover, Brussels	Gold Drop	18½	24	10	19	24	95½
Jno. Crerar, do	$1,000	18½	24	9	18	23	92½
Wm. Moses, Jamestown	Early Swedish .	18	24	8	19	23	92
P. F. Patrick, Wroxeter	Banner	18	23	9	18½	23	91½
Wm. Wark, Brussels	Early Swedish .	17½	22½	9	19	23	91
T. R. Bennett, Wroxeter	Banner	16	23	8	18½	22½	88
Jas. Burgess, Brussels	$1,000	17	20	10	18	22	87
Robt. Nichol, do	Gold Drop	18	18	10	18	22½	86½
Wm. Thuell, do	.....	17	20	9	18	22	86
Jas. Nichols, Brussels	Irish White ...	18	22	9	16	20½	85½
Thos. Miller, do	Banner	17½	17	9	18	22½	84
David Milne, Ethel	.....	15	22	8	18	20½	83½
W. Armstrong, Brussels	Abundance	17	17	9	18	22	83
W. K. Broadfoot, do	Reg. Banner	18	16	9	17	21	81
T. S. Armstrong, do	Reg. Abundance.	16	15	9	18	21	79
HOWICK AGR. SOCIETY.							
Judge—P. O. Vansickle, Alberton.							
Harvey Sparling, Gorrie	Swedish Select ..	18½	23	10	18	22½	92
Wm. Brown, Sr., do	Amer. Banner ..	19	23	8	18	23½	91½
Jas. W. Edgar, do	Swedish Select .	17½	22	8	19½	21½	88½
A. W. Keil, Fordwich	do .	17½	23	9	17	21½	88
Jno. Holland, Harriston	Siberian	16½	21	8½	18½	21½	86
Jno. H. Demmering, Molesworth	Swedish Select ..	15	20	9½	19	20½	84
Hugh Edgar, Gorrie	do .	18½	17	9	17½	21½	83½
E. A. Fallis, Forwich	Siberian	17½	18	8½	17	22	83
Ed. Krohn, Gorrie	do	17½	16	8½	17½	21½	81
Ford Cooper, do	Sensation	16½	19	9½	15	20	80
Jno. Wilkin, Harriston	Lincoln	15	2	8	18	20	63

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
HURON—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
SEAFORTH AGR. SOCIETY.							
Judge—Thos. Creighton, Mooretown.							
H. & J. Broadfoot, Seaforth ...	Banner	18	25	8	19	22	93
A. Elcoat, Brucefield	do	16½	25	8	19	22	90½
R. A. Campbell, Dublin	White Tartar ...	16	23	8	18	22	87
Jno. McDowell, Seaforth	Banner	15	22	7	20	19	83
Robt. Doig, Egmondville	Swedish Giant ..	17	17	8	17	23	82
Pat. McGrath, Seaforth	do ..	17	17	7	18	22	81
Jas. Finlayson, Egmondville ..	White Danish (Mixed)	15	18	8	18	21	80
Jos. Scott, do	Banner	15	17	8	20	19	79
Wm. Black, do	Sheffield Standard	14½	16	8	17	21½	77
Thos. E. Livingston, do	do	9½	17	8	17	21	72½
D. Fotheringham, Brucefield ..	Banner	12½	15	8	18	17½	71
Jas. McQuaid, Seaforth	Ligowa	16½	10	5	16	18	65½
TURNBERRY AGR. SOCIETY.							
Judge—P. O. Vansickle, Alberton.							
Frank Henry, Whitchurch	White Marvel ..	17½	22	9	19	22	89½
J. W. Fortune, Wingham	Bumper King ...	17	24½	7	19	21½	89
Rich. Wilton, do	Sensation	17½	20	9½	17	21	85
H. T. Perdue, do	Lincoln	17½	16	9	19	22	83½
Peter Leaver, Fordyce	White Marvel ..	17½	18	9½	18	19	82
Abram Proctor, Belgrave	Banner	17½	17	7	18	22	81½
Sam. Burchill, Wingham	Gooderham's No. 2	17½	14	7½	15	22	76
W. A. Taylor, St. Helen's.....	W. Danish Island	17½	10	9	18	21	75½
J. F. Davidson, Wingham	Siberian	17½	22	9	5	20½	74
Jas. Henderson, do	Sensation	15½	7	7	10	20½	60
W. HURON AGR. SOCIETY.							
Judge—Thos. Creighton, Mooretown.							
W. L. Salkeld, Goderich	Swedish Giant ..	16½	20	8	18	21	83½
Jno. Sowerby, do	Wida Awake	16	17	9	19	21	82
H. K. Revell, do	Swedish Giant .	15	19	8	18	21	81
S. R. McMath, do	White Wave	15½	17	9	17	22	80½
Hugh Hill, Benmiller	Irish White	13½	17	9	17	21½	78
J. Salkeld, Goderich	Banner	14	18	9	17½	19	77½
Geo. Laithwaite, do	do	14	18	8	18	19	77
Alex. Young, do	New White	14	20	8	14	19	75

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
HURON—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
W. HURON AGR. SOCIETY.—*Con.*							
Geo. Andrews, do	Ligowa	13½	16	8	15	21	73½
Lawrence Bell, Porter's Hill ..	Golden Drop	13	20	4	16	20½	73½
KENT.							
WALLACEBURG AGR. SOCIETY.							
Judge—Adam Hood, Milliken.							
J. E. Richardson, Chatham .	Reg. Banner	17½	22	8½	18½	22	88½
Jno. A. O'Neil, Wallaceburg ..	New Century	17	22	8	19	22	88
Geo. Crawford, Electric	Imp. Banner . ..	17½	21	8	18	22	86½
Langstaff Bros., Chatham	Banner	17	20	8	19	21	85
Jno. Coveney, Baldoon	Reg. Abundance .	16	20	8	18	22½	84½
J. S. Harper, Tupperville	White Jewel	16	20	7	19	22	84
Austin Hazzard, Wallaceburg ..	Banner	16½	22	8	15	22	83½
Dougald Crawford, Electric.....	Imp. Banner	16	22	8	16	21	83
Thos. Files, Dover	Reg. Banner	15	16	9	18	22	80
S. S. Deyo, Becher	$1,000	16	18	8	15	22½	79½
Jno. Hamilton, Tupperville ...	Banner	14	21	8	18	17½	78½
K. Coveney, Baldoon	Dodd's 50 lb.	16	16	7	16	22	77
Chas. Harrett, Wallaceburg ...	Siberian	14½	20	6	16	19½	76
LAMBTON.							
BOSANQUET AGR. SOCIETY.							
Judge—Adam Hood, Milliken.							
A. D. Donald, Jericho	Banner	17½	23	8	18	22	88½
Robt. Tidball, Thedford	White Cluster ..	16	23	8	18	21	86
Jas. Welsh, Birnam	Silver Mine	16	22	8	17	21	84
W. G. Thompson, Jericho	Banner	16	21	7	18	21	83
R. R. Anderson, Thedford.....	.....	15	20	8	18	21½	82½
Jno. Sercombe, do	English White ..	15	20	8	18	21	82
Jas. Walden, do	Great Dane	15	19	8	18	21	81
Jos. Molloy, do	Reg. Abundance .	15	19	7	18	21½	80½
R. D. Thomson, Widder	White Cluster ..	14½	20	8	17	20½	80
W. J. French, Thedford	Great Dane	15	21	7	17	19½	79½
Alex. Lithgow, Forest	Banner	15	19	7	17	21	79
Jno. Tidball, do	do	14½	19	7	17	20½	78
Albert G. Wright, Thedford ..	Siberian	14	20	7	16	20½	77½
Robt. Lithgow, do	Banner	14½	20	7	16	19	76½
Ben. Humphries, do	Prince Royal	14½	20	6	16	19½	76
BROOKE & ALVINSTON AGR. SOC.							
Judge—A. B. Rose, Cainsville.							
G. H. Oke, Alvinston	Abundance	17	23½	8	17½	23	89
D. G. Maddock, Walnut	Irish White	17	24½	8	18	21	88½

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
LAMBTON—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
BROOKE AND ALVINSTON AGR. SOCIETY.—*Continued.*							
Jas. Hand, Alvinston	Banner	16½	23	9	18½	21	88
Thos. H. Lorell, do	Irish White	18	22½	8	16½	22½	87½
Jno. Hand, do	Banner	17½	23	7½	17	22	87
F. W. Oke, do	20th Century	15	24	7	19	21	86
E. Armstrong, Bothwell, R.R., 2	White Bonanza .	16	21	8	19	21½	85½
Campbell Bros., Alvinston	Banner	17½	20	8	17	22½	85
Jas. H. Johnston, Totten	Halton's Pride ..	17½	20	8	17	21½	84
Leslie Oke, Alvinston	20th Century ...	16	23	8	17	19½	83½
Angus McLaughlin, Inwood ...	Irish Victor	15	24	9	15	20	83
D. McKinley, Alvinston	Abundance	18	16	8	17	23	82
P. J. Frayne, do	20th Century	15	23	7½	15	20	80½
W. J. Weed, do	Irish White	14½	24	6	16	19½	80
D. L. Fisher, Alvinston, R.R., 2	Banner	14½	20	7	18	19	78½
Darwin Oke, Alvinston	20th Century	13½	21	8	15	19½	77
H. Darvill, do	Amer. Banner ...	16	15	8	15	20	74
Jno. McCallum, Alvinston	Reg. Banner	13	18	6	18	18½	73½
H. A. Gilray, do	do	13	18	5	18	19½	73½
A. F. Campbell, do	20th Century ...	14½	16	7	18	18	73½
PETROLIA AND ENNISKILLEN AGR. SOCIETY.							
Judge—A. B. Rose, Cainsville.							
Jno. Hunter, Petrolia, R.R. 3 .	Reg. Banner	17½	23	7½	19	19½	86½
Geo. Hartley, Wyoming, R.R., 3	Amer. Banner ..	17	23	7½	16	22	85½
J. H. Bernard, Petrolia	Big Four	17	22	8	16½	20	83½
Chas. Smith, Wyoming, R.R., 3	Amer. Banner ..	15½	23	7½	16	20½	82½
Geo. Smith, Wyoming	Tartar King	15	23	7½	16	18½	80
Thos. Simpson, Glen Rae	Banner	16	18	7	18	20	79
P. L. McPhedran, Copplestone .	Sterling	14½	18	9	18	19	78½
F. E. Steadman, Wyoming ...	Banner	14½	19	8	17	19½	78
R. J. Park, Petrolia	Siberian	14½	19	8	18	18	77½
W. A. Brock, do	Banner	16	18	7	16	19½	76½
P. McPhedran, Wanstead	Irish Victor	17	13	7½	15	21	73½
LANARK.							
SOUTH LANARK AGR. SOCIETY.							
Judge—W. Monaghan, Rose Hall							
C. J. Bell, Balderson	Ligowa	14½	23	8	18	20	83½
T. A. Poole, Perth	Abundance	13	23	8	18	20	82
Alex. McGarry, Perth, R.M.D. .	Imp. Banner ...	17	18	8	16	22	81
Alex. Keays, Harper	Prince Royal ...	14	22	8	18	18	80
Sam. Gamble, Wemyss	Banner	14	20	8	18	19½	79½
P. M. Campbell, Balderson	Mammoth Cluster	16½	18	8	16	20	78½
Jas. Warren, Lanark	Imp. Banner ...	16	18	8	16	20	78

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
LANARK—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
SOUTH LANARK AGR. SOC.—*Con.*							
R. E. White, Balderson	Banner	14	18	8	18	19	77
Hy. Mather, do	Imp. Banner	14½	18	7	15	20	74½
R. E. Wilson, Scotch Line	Banner	15	16	7	16	20	74
D. A. Fisher, Harper	do	14	16	8	16	19½	73½
R. H. Anderson, Manion	do	13	16	8	16	19	72
W. R. McGarry, Perth, R.M.D.	do	9	23	6	17	12	67
S. Wilson, Allan Mills	do	13	14	6	16	17½	66½
J. H. Ferrier, Perth	do	13½	10	7	16	19½	66
Elijah Hughes, Balderson	Great Dane	13	12	8	18	13½	64½
Geo. Wilson, Perth R.M.D.	Banner	10	12	8	18	15	63
Norman Burke, Perth	New Century	13	10	6	8	15	52
LEEDS							
LANSDOWNE AGR. SOCIETY. *Judge—D. M. McLennan, Lancaster.*							
W. Landon, Lansdowne	Abundance	20	23½	9	19	22½	94
O. W. Landon, do	Banner	18	23½	9½	19	22	92
Hugh Gray, do	Abundance	18	22½	9	18½	23	91½
R. Shields, do	Banner	18½	21½	8½	18	23½	90
R. N. Heaslip, do	do	18½	21½	8½	19	22	89½
W. H. Rath, do	20th Century	17	22	8½	17	22½	87
Sam. Donovan, do	Banner	17	20	8½	18	22½	86
W. H. O. Foley, do	Newmarket	16½	20	8	17	21½	83
R. A. Foley, Rockfield	do	17½	18	8	17	21	81½
H. B. Young, Lansdowne	Banner	16	18	9	17	21	81
R. W. Foley, do	Newmarket	16	17	8	16	20½	77½
D. F. Warren, do	Golden Fleece	14½	20	6½	16	20	77
A. H. McKay, do	Newmarket	16½	15	7	18	20	76½
U. J. B. Warren, do	Abundance	17	14	6	15	19½	71½
LOMBARDY AGR. SOCIETY. *Judge—W. Monaghan, Rose Hall.*							
H. Chalmers, Smith's Falls	Banner	17	20	9	19	23	88
Jno. Duffield, Lombardy		17	20	8	19	22	86
E. J. O'Meara, do	Rex	13	25	8	20	19½	85½
E. P. Kelly, do	White Wave	16	20	8	18	21	83
E. W. Joynt, Rideau Ferry		16	20	8	18	20	82
Jno. M. Shields, Smith's Falls.	Reg. Abundance.	16	14	8	18	20	76
Jno. Hamer, Lombardy		16	18	8	14	19½	75½
Jno. Covell, do	Banner	13	16	8	18	19½	74½
Frank Covell, do	do	12	18	7	18	19	74
Ed Woods, do	Great Dane	11½	16	8	18	17	70½
T. W. O'Meara, do	Rex	13	12	8	16	17	66
Ross Miller, Rideau Ferry	Banner	7	16	8	15	12½	58½

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
LENNOX AND ADDINGTON.		(20)	(25)	(10)	(20)	(25)	(100)
LENNOX AGR. SOCIETY.							
Judge—W. F. B. Switzer, Streetsville.							
Mark Hawley, Napanee	Sterling	19	24	9	18	22	92
R. P. Hawley, do	Banner	16	21	9	19	20	85
C. W. Garrison, do	do	17	20	8	16	21	82
S. H. McKim, do	do	16	20	8	17½	20	81½
M. N. Empey, do	Abundance	14½	20	8	18	20½	81
Frank Hart, do	Newmarket	16	21	9	12	19	77
W. B. Pringle, do	Ligowa	12½	17	8	17	20½	75
H. Hunter, do	Newmarket	14½	20	8½	10	19	72
Jno. Wilson, do	Imperial	15	15	7½	15	19	71½
C. W. Neville, do	Ligowa	9	15	5	17	13	59
LINCOLN.							
CLINTON TP. AGR. SOCIETY.							
Judge—C. S. Nicholson, O.A.C., Guelph.							
J. A. Lind, Beamsville	Siberian	18	24	8	18	23	91
H. H. Tufford, do	do	18½	23	8	18	22	89½
Dan. A. Moyer, Campden	Silver Mine	18	23	8	16	23	88
W. D. Culp, Beamsville	Siberian	17	23	8	18	20	86
Ed. Boughner, do	Scottish Chief	17	21	8	17½	21½	85
A. W. Culp, do	Banner	17½	18	8	18	22½	84
Levi Moyer, do	do	17½	18	8	18	22	83½
Aaron Culp, do	do	17	18	8	18	22	83
S. H. Culp, Campden	Siberian	14	23	7	18	20	82
J. B. Parker, Beamsville	Abundance	14	17	9	18	22	80
A. E. Field Marshall do	New Green Mt.	14	18	7½	18	20½	78
PENINSULAR CENTRAL AGR. SOCIETY.							
Judge—C. S. Nicholson, O.A.C., Guelph.							
W. J. Grant, Smithville	Abundance	18	23	9	18	22	90
F. C. Packham, do	Tartar King	19	23	7½	14	22	85½
W. Smye, do	Banner	17	22	6	18	21	84
Elijah Durham, do	Scottish Chief	17	21	7	16	22	83
W. H. Lounsbury, do	Banner	15	19	9	17	22	82
Jos. D. Book, do	Abundance	17	22	6½	14	22	81½
B. McIntyre, do	Silver Mine	16½	17	8	16	22½	80
J. F. Durham, do	do	15	19	6	18	21	79
Thompson Wilcox, do	do	15	20	7	14	21	77
Thos. D. Kettle, do	Storm King	14	18	6	16	21	75
Wm. R. Taylor, do	Banner	13	18	7	18	18	74

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
MANITOULIN.		(20)	(25)	(10)	(20)	(25)	(100)
GORE BAY AGR. SOCIETY.							
Judge—A. S. Smith, Sault Ste. Marie.							
Jno. Wilson, Gore Bay.	Daubeney	15½	19	8½	18	21½	82½
Nelson Campbell, Foxey	Reg. Banner	15	20	6½	18½	21	81
Jno. Jennings, Barrie Island	do	14	20	8½	15	20	77½
J. W. Kinney, Gore Bay	Banner	15	18	6½	15	22	76½
R. W. Milligan, do	20th Century	14	18	6½	16	21½	76
E. Letts, Barrie Island	Daubeney	14½	15	7	17	22	75½
J. C. Van Meer, Gore Bay	Derby	12½	18½	6	17½	20	74½
A. Long, Barrie Island	Banner	13½	18½	6½	15	20	73½
Geo. Coutts, Gore Bay	Daubeney	12	18½	6½	16	19½	72½
Neil McDougall, do	Banner	14	15	6	16	21	72
A. Wilkinson, do	do	12½	14	7	16	21½	71
MIDDLESEX.							
EAST MIDDLESEX AGR. SOCIETY.							
Judge—R. E. Mortimer, Honeywood.							
W. B. Weir, London, R.R., 8	Banner	15	22	8	15	19	79
Jno. Arnutt, Hyde Park	Amer. Banner	16	21	3	15	19	74
Jno. McMillan, Glanworth	White Jewel	16½	18	8½	12½	16½	72
Wm. Bell, London, R.R., 8	Banner	16½	18	4	15	17½	71
W. E. Grieves, Wilton Grove	do	15	17	4	16	17	69
Jas Murray, do	do	15	18	4½	12½	17	67
A. Irwin, Crumlin	Big Four	17	12½	5½	12½	19	66½
J. B. Nichol, Wilton Grove	Irish White	16	16	5	12½	16½	66
N. Anderson, do	Banner	16	13	5	12½	19½	66
Geo. Riddle, do	do	16	12½	4	15	17½	65
A. Beattie, do	White Marvel	12½	20	3	12	16	63½
Harvey Begg, do	Swedish Giant	14½	20	7½	5	16	63
A. B. Kennedy, Ilderton	Banner	15½	.....	7½	15	16½	54½
W. Hueston, Thorndale	do	14	5	5	12	16½	52½
W. B. Harding, do	Gold Drop	8	5	6	15	11	45
McGILLIVRAY AGR. SOCIETY.							
Judge—James Jardine, Collingwood, R.R., 1.							
A. B. Erskine, Parkhill, R.R., 1	New Century	18½	21	9	17	23	88½
W. T. Corbett, Brinsley, R.R., 1	Banner	18½	20	8	18	23½	88
Dixon Bros., Maguire	Prince Royal	18½	20	8	15	23	84½
A. Steward & Sons, Brinsley, R.R., 1.	Banner	16½	20	7	19	21	83½
F. J. Neil, Parkhill, R.R., 1	Early Yielder	17½	17	7	18	23½	83
J. H. Ames, Brinsley	Siberian	16	20	8	17	21½	82½

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
MIDDLESEX.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
McGILLIVRAY AGR. SOCIETY.—*Con.*							
Gibson Bros., W. McGillivray	Banner	16½	18	7	17	22	80½
Jas. Darling, Lieury	New Century	17	15	7	17	21	77
Amos Darling, do	20th Century	16½	15	7	17	21	76½
W. T. Ames, do	Banner	15	15	7	17	20	74
W. J. Robinson, Brinsley	Abundance	14½	15	7	15	21	72½
MOSA & EKFRID AGR. SOCIETY.							
Judge—Wm. Scarf, Durham.							
Jas. Walker, Glencoe	**Banner**	18½	23½	9	19	23	93
Ab. Burchill, Newbury	do	17½	23	9	20	21	90½
D. N. Munroe, Glencoe	Siberian	18	21	9	17	22½	87½
W. A. McCutcheon, do	Swedish Giant	16½	23	9	15	20½	84
Thos. Henderson, do	Sensation	16	20	9	17	21	83
H. McCutcheon, do	Perfection	18½	18	9	15	21½	82
Neil J. McKellar, do	Danish	17	18	8	14	20½	77½
D. J. McKellar, do	do	15½	16	8½	15	22	77
Thos. C. Reycraft, do	Sensation	15	18	8½	15	19½	76
R. W. McKellar, do	Swedish Giant	15	17	9	15	19	75
Dan. McGregor, do	Banner	18½	15	9	11	20½	74
N. MIDDLESEX AGR. SOCIETY.							
Judge—Jas. Jardine, Collingwood, R.R. 1.							
Hughes Bros., Denfield, R.R., 3	Garton's Reg. Abundance	17⅓	24	7	19	23	90½
R. R. Cameron, Ailsa Craig	Banner	17½	24	9	16	23	89½
Chas. Bean, Brinsley	Siberian	19	20	8	20	22	89
J. A. Watson, Fernhill	Reg. Banner	18½	23	8	17	22	88½
G. Grieve, Ailsa Craig	Wyatt	18½	24	7	15	23	87½
Duncan McArthur, do	Banner	17	20	8	18	23	86
Edgar Darling, Maple Lodge	do	18½	15	9	18	24	84½
O'Neil Bros., Ailsa Craig	Reg. English	18	20	7	17	21½	83½
Jas. Farlane, Falkirk	Garton's Reg. Abundance	16	23	7	15	22	83
A. E. Rosser, Ailsa Craig	Abundance	17½	17	7	15	23	79½
Geo. Hindmarsh, do	Banner	17	17	7	17	21	79
A. Hudson, Falkirk,	Jewel	16	20	6	15	19½	76½
J. C. Shipley, do	Banner	16	15	8	17	20	76
Jas. Hudson, Ailsa Craig	Siberian	17	10	8	19	21½	75½
Donald Dorman, do	Banner	17	15	5	17	21	75
Thos. Hindmarsh, do	do	17	15	6	15	21½	74½
D. McFarlane, Coldstream	20th Century	16	14	7	15	21	73
Neil McAlpine, Ailsa Craig	Irish White	16	15	6	14	21	72

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
MIDDLESEX.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
STRATHROY AGR. SOCIETY.							
Judge—Wm. Scarf, Durham,							
W. F. Toothill, Strathroy	Swedish Giant	20	21	9½	19½	24½	94½
W. B. Ferguson, do	.....	19	23	9	18	24½	93½
G. M. Zavitz, Coldstream	Reg. Banner	19½	23	8	18	24	92½
T. W. Douglas, Strathroy	Siberian	19	22	8	18	24	91
Duncan Limon, do	White Poland	18	23	7½	19½	22½	90½
A. Crawford & Son, do	Banner	19	23	8½	17	22½	90
R. W. Bogue, do	Ligowa	17½	21	8	19	21	86½
W. Field & Son, Kerrwood	Banner	18½	17	8½	18	22	84
A. H. Bolton & Son, Strathroy	Siberian	16½	20	8½	18	20	83
Edgar Boyne, do	Banner	16	18½	8½	16	21	80
WESTMINSTER AGR. SOCIETY.							
Judge—T. W. Lennox, Toronto.							
F. Bodkin, Wilton Grove, R.R. 2	Dalmeny Special.	18½	23½	9½	19½	24½	95½
R.T. Baty, Wilton Grove	Amer. Banner	18½	24	9	19½	24	95
D. Ferguson, Wilton Grove, R. R., 1	Banner	19½	24	10	18	23	94½
W. H. Beattie, Wilton Grove	do	18	25	9	19	23	94
H. Bennett, Glanworth	Newmarket	19	23	8	18	23	91
R. Willis, Lambeth	Abundance	18	22	8½	19	23	90½
W. E. Wright & Son, Glanworth	White Jewel	18	23	9	18	22	90
M. V. Fisher, do	Banner	17½	23	9	18	22	89½
W. C. Pack, Lambeth, R.R., 2	Mammoth White.	18	22	9	18	22½	89½
C. W. Baker, Tamblings, R.R., 4	Abundance	18	22	8	18	23	89
Jos. Renison, Glanworth, R.R., 1	Banner	17½	22	8	18½	23	89
W. G. Baty, Wilton Grove	do	16	24	8½	18	22	88½
E. Brown, Lambeth, R.R., 2	do	17	22	8	18	22	87
Jos. Poole, Lambeth	Swedish Giant	16½	23	9	17	21	86½
MUSKOKA.							
MEDORA & WOOD AGR. SOCIETY.							
Judge—A. E. Myles, Kimberley.							
Thos. Aikens, Port Carling	Reg. Banner	17½	22	9	19	22½	90
A. Fraser, Brackenrig	20th Century	16	25	8	16	21	86
Wm. A. Pooler, Point Kaye	Garton's Abun-	18	15	8	19	23	83
W. K. Foreman, Port Carling	Wh. Dane [dance	15½	20	6	19	21	81½
Robt. Trouten, Brackenrig	Imp. Banner	16	17	14	15	18	80
A. Mitchell, Bardsville	Amer. Banner	16	24	5	16	18½	79½
Jas. Stephen, Port Carling	Newmarket	15	16	6	17	20	74
Jos. McCulley, do	Tartar King	16	15	6	15	18½	70½
W. T. Noble, Rossclair	Banner [White	16½	15	5	15	17½	69
J. W. Knight, Brackenrig	Rennie's Irish	14	20	5	10	19	68
Geo. Carr, Port Carling	Imp. Banner	14½	15	5	9	18	61½
H. White, Glen Orchard	Amer. Banner	13	10	6	10	19	58
Jas. Glass, Milford Bay	Tartar King	14	14	5	5	12	50

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
MUSKOKA.—*Continued.*		(20)	(25)	(10)	(20))	(25)	(100)
SOUTH MUSKOKA AGR. SOCIETY.							
Judge—J. C. Steckley, Newmarket.							
H. L. Goltz, Bardsville	Imported Scotch.	17½	24	10	19	21	91½
J. J. Beaumont, Bracebridge	Siberian	17½	21	9	17	21	85
Wm. Ball, do	North West	18	17	9	15½	22½	82
A. Parret & Son, do	Scottish Chief	17	20½	9	15	20	81½
S. H. Armstrong, do	Sensation	17	21	8	15	20	81
G. F. Bucklefield, do	Canadian Pride	18½	15	10	15	22	80½
Albert Goltz, Bardsville	Siberian	18	16	9	16	20½	79½
T. M. Lochhead, Bracebridge	Banner	16½	21	8	14	18	77½
Geo. Yearley, Falkenburg	do	13	18	9	17	16	73
STEPHENSON & WATT AGR. SOCIETY.							
Judge—J. C. Steckley, Newmarket.							
Nelson Hammill, Raymond	Reg. Banner	18½	23	9	19	23	92½
Jno. Webber, do	Banner	19	22	9	18½	23	91½
Walter Hares, Allansville	New Century	18½	23	9	16	23	89½
Geo. Hammill, Raymond	Banner	19	21	10	19	20	89
Jno. Billingsley, do	do	17¼	23	8½	18½	20½	87¾
Wm. Esson, Port Sydney	do	16	23	10	18	20	87
Thos. Hammill, Raymond	Reg. Banner	17	22	9	19	19½	86½
Walter Hamilton, do	20th Century	17	23	9	15	22	86
W. J. Hammill, do	Reg. Banner	17½	21	9	18	20	85⅓
Chas. Oldham, Ufford	New Sterling	17	23	9	15	21	85
Thos. Howard, Allansville	Banner	17	23	9	15	20	84
Jas. Kaye, Bracebridge	New Century	18	18	9	17	21	83
Thos. Graham, Raymond	Amer. Banner	18½	15	8½	18	22	82
W. G. Bunn, Ulswater	Tartar King	17	21	9	14	20	81
Jas. Webber, Raymond	Reg. Banner	16½	20	9	17	18	80½
Wm. Hamilton do	Banner	17	19	9	17	18	80
W. F. Somerset, Port Sydney	Abundance	19	21	6	15	18	79
Jas. McNicoll, Allansville	Banner	14	21	9	17	17	78
H. T. Vincent, Huntsville	do	14	20	8	15	18	75
NIPISSING.							
VERNER AGR. SOCIETY.							
Judge—G. H. Farmer, Steelton.							
Fred. Sylvester, Verner	Banner	18¼	22	9	19½	23½	92¼
Jos. Beaudry, do	do	18	24½	8	19	22½	92
J. A. Lecuyer, do	Abundance	18¼	22	9½	19	22¾	91½
A. Titratrault, do	Banner	18¾	23¼	8½	18	22	90½

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
NIPISSING.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
VERNER AGR. SOCIETY.—*Con.*							
Fred. Limoges, Verner	Banner	17¼	24	8	18	22½	89¾
Leon Bontin, do	Bumper King ..	16	24½	8½	18	22½	89¼
Jos. St. Amour, do	Waverley	17¾	23	8	17	22½	88¼
Oct. Jalbert, do	Tartar King	17¼	22	8	19½	20½	87¼
G. L. Sylvester, do	Banner	18½	20	8	17¼	22¼	86
Jos. Aubin, do	do	16¼	23	9	17	20½	85¾
S. Aubry, do	do	17¾	20	8	18½	21	85¼
Zenor Clouthier, do	do	15	24	7	18	21	85
A. Gagnon, do	do	14½	20	8	17	20	79½
Mosie Paquette, do	do	14½	17	8	18	20½	78
NORTHUMBERLAND.							
WOOLER AGR. SOCIETY.							
Judge—J. C. Steckley, Newmarket.							
S. L. Terrill, Wooler	.....	19	24	8	19	16	86
H. Wessels, Trenton	Abundance	16	21	9	19	20½	85½
E. M. Wessels Wooler.....	Banner	17½	22	8	16	20	83½
C. W. Ruttan, do	Ligowa	18	15	10	16	23	82
Bruce Plumton, do	Abundance	16	19	8	18	20	81
J. R. McMaster, do	Tartar King	17	20	8	16	18½	79½
L. C. McColl, do	Banner	15½	18	8	16	21	78½
Jno. Alley, do	Golden Giant ...	16	21	9	12	20	78
C. G. Ruttan, do	Ligowa	16½	18	9	14	20	77½
C. R. Terrill, do	Scotch Banner .	15½	17	8	17	19	76½
Frank Nelson, do	Banner	15½	17	8	16	19	75½
ONTARIO.							
BEAVERTON AGR. SOCIETY.							
Judge—Morden Gilbert. Demorestville, R.M.D.. 3.							
Eli McCuaig, Gamebridge	Sterling	16	23½	9	18	20	86½
J. Harrison, Beaverton	Bumper King ...	16½	20	9	18½	22	86
Hodgkinson & Tisdale, do ...	Garton's Reg. Abundance	16	20	9	20½	20	85½
Robt. Ross, Beaverton R.M.D., 1	Amer. Banner ..	15	21	9	18	22	85
Jno. Miller, Sunderland	Newmarket	16½	18	8	15	22	79½
Dugald Brown, Beaverton	Amer. Banner ..	15	17	8	18	20½	78½
D. J. McRae, do	Sheffield Standard	14	20	7	17	20	78
R. E. Gunn. do	20th Century ...	13½	20	7	17½	19½	77½
A. McDonald, do	Banner	15	15	8	17	22	77
Jno. Westlake, do	do	14	19	6½	16	20	75½

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS—*Con.*

OATS.

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ONTARIO.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
BEAVERTON AGR. SOCIETY.—*Con*							
J. J. King, Cannington, R.R., 2	Banner	13	20	7	17	18	75
David Evans, Beaverton	20th Century ...	15	16	7	17	19½	74½
F. S. McHattie, do	Bumper King ...	14	20	6	16	18	74
A. D. McEachern, Woodville ...	Mammoth Cluster	13½	19	6	16	19	73½
D. R. McHattie, Beaverton	Banner	14	19	6	16	18	73
Peter McCuaig, Gamebridge ...	Swedish Select .	14½	20	5	16	17	72½
Jas. Thompson, Beaverton	Banner	12½	15	7	17	20	71½
J. H. Veale, do	Prince Royal ...	12½	18	8	17	15	70½
F. W. Rilance, do	Bumper King ...	13	15	7	16	19	70
A. B. Young, Gamebridge	20th Century ...	13	12	7	18	20	69½
Brown Bros., Beaverton	Newmarket	13½	14	7	14	19	67½
D. Graham, Gamebridge	Banner	11½	16	8	15	16	66½
Wm. Wallace, do	do	12½	16	6½	15	16	66
Peter Kelly, Brechin	Bumper King ...	13	13½	6	15	18	65½
Jno. J. Morrison, Beaverton, ..	Banner	13	12	7	17	16	65
OXFORD.							
INGERSOLL, N. & W. OXFORD AGR SOCIETY.							
Judge—H. Grose, Lefroy.							
Jas. Raymond, Ingersoll	Scottish Banner .	17½	22	9	19	22	89½
R. M. Harris, do	Siberian	17	23	9	19	21	89
R. Mayberry, do	Reg. Abundance .	17	21	9	19	22	88
Geo. Holmes, do	Banner	16	22	8	17	23	86
Geo. Wilson, do	Prince Royal ...	16	21	8	19	21	85
Jas. Currie, do	Liberty	16	21	8	17	22	84
Geo. Way, do ..	Banner	14½	21	7	19	22	83½
R. H. Wilson, do	Mammoth Cluster	13	24	6	18	21	82
R. R. Nancekivell, do	Liberty	15	17	7	18	22	79½
A. R. McNiven, do	20th Century ...	13	20	6	19	21	79
David Robinson, do	Banner	13	21	6	17	21	78
F. H. Harris, Mt. Elgin	do	15	16	7	17	21	76
V. Meek, Ingersoll	do	13	17	7	16	21	74
Jos. Groves & Sons, do ...	Siberian	13	16	6	17	20	72
R. Jonvey, do	Ligowa	12	17	6	17	19	71
TILLSONBURG & DEREHAM AGR. SOCIETY.							
Judge—Robt. Berry, Berrylands							
Isaac Holland, Brownsville	Abundance	19½	24½	9	18½	24	95½
Thos. Nant, do	Amer Banner ...	18½	23	8½	20	23	93
T. R. Lengrell, Ostrander	Green Mountain.	18½	24	8	18½	22	91
O. H. Pittman, do ..	do ..	18½	22	7	19	21½	88
Jno. Sanderson, Culloden	Banner	18	22½	8	17½	20½	86½
Leamon Harris, Mount Elgin ..	Early Cluster ...	17½	21½	8	18½	20	85½

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	Yield and quality of grain.	Totals of scores.
OXFORD.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
TILLSONBURG AND DEREHAM AGR. SOCIETY.—*Continued.*							
Philip Miners, Delmer	White Cluster ..	17	20½	8	15½	20	81
Jno. H. Smith, do	White Jewel ...	16½	22	7½	14	20½	80½
Levi Fewster, do	Banner	17½	19½	7	17	19	80
F. A. Scott, Tillsonburg	do	15½	22½	5½	18½	17½	79½
Sam Sitts, do	Mammoth Cluster and Banner ...	18	15	7	18	21	79
R. J. Brookfield, do	Prince Royal ...	16	19½	7½	16	19½	78½
W. S. Scott, do	Banner	14	18	8½	19	18½	78
WEST ZORRA & EMBRO AGR. SOCIETY.							
Judge H. Grose, Lefroy.							
C. Ross, Embro, R.R., 3	Lincoln	18	21	9	19	23	90
R. H. Marshall, Embro, R.R. 2.	Prince Royal ...	17	21	7	19	23	87
A. J. Matheson, Embro	Banner	17	20	8	19	22½	86½
Donald Clark, Embro, R.R., 5 .	do	17	21	8	19	21	86
Geo. Smith, Bennington	do	17	21	8	19	20	85
Alex. Kennedy, Embro	do	16	21	7	19	20	83
Alex. Smith, do	do	16	19	7	19	21	82
H. A. Millard, Bennington	do	14	20	7	19	21	81
W. McCorquodale, Embro, R.R., 3	do	16	20	7	18	19	80
Glendenning Bros., Bennington.	do	13½	21	8	17	20	79½
H. W. Sutherland, Embro, R.R., 2	Early Lincoln ..	13	20	7	17	22	79
R. J. Matheson, Bennington ...	Banner	14	17	7	19	20	77
Wm. Oliver, do ...	do	12½	18	7	19	20	76½
G. A. Hogg, Thamesford	Banner	13	19	7	17	20	76
Hy. Turner, Woodstock	do	11	22	7	17	19	76
Robt. McCorquodale, Embro, R. R., 3	do	13½	19	7	17	19	75½
R. A. Conke, Tavistock, R.R., 2 .	do	11½	16	7	18	20	72½
Geo. Baker, Lakeside	Scottish Chief ..	11½	15	7	17	19	69½
PARRY SOUND.							
LORING AGR. SOCIETY.							
Judge—E. G. Hogarth, Whitby.							
Jno. Haggard & Son, Loring	Banner	16½	22	9	18	21	86½
J. R. Bain, do	White Wave	15	22½	9¼	18	20	85
J. S. Smith, do	Banner	18	23	9	10½	22	82½
Donald Smith, do	White Wave	15½	21½	9	13½	20½	80
R. Yeo, do	New Century	15½	19	9	15	20½	79
E. Forsyth, do	Banner	13½	16½	9	18	20	77
Jno. S. Bain, do	do	11	23½	8	15½	16½	74½
Wm. Kirton, do	New Century	14½	11½	8	15½	19½	69
A. W. Sinclair, do	Mammoth Cluster	13½	11	8	15½	20	68

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

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PARRY SOUND.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
MACHAR AGR. SOCIETY.							
Judge— Jas. Boyd, Cedar Grove.							
L. Ardill, South River	Banner	14	24	7	17	21	83
A. Ardill, Uplands	do	15	22	7	15	22	81
Jno. Hanson, South River	Amer. Banner	12	23	7	18	20	80
Geo. Cottrell, Sundridge	Reg. Abundance	12	23	8	17	19	79
J. S. Cole, South River	Banner	12	23	7	16	18	76
T. H. Quirt, Midford	Banner	12	22	8	17	16½	75½
T. R. Bottomley, South River	Sterling	12	20	7	17	19	75
A. McCaig, do	White Cluster	13	19	8	14	20	74
R. G. Aberdeen, do	.....	11	19	8	17	17	72
J. P. Rolston, do	Storm King	11	21	8	14	15	69
T. J. Hearn, do	.....	11	20	8	12	17	68
MAGNETAWAN AGR. SOCIETY.							
Judge—Wilson Black, Stroud							
Julius Wurm, Magnetawan	Banner	16½	23	8	18	20	85½
Jos. Bell, Ahmic Lake	Mammoth Cluster	15½	22	8½	18	19	83
Geo. Stewart, Magnetawan	do	16	20	8½	18½	19½	82½
Robt. Elliott, do	do	16	20	8½	17	19½	81
Thos. W. Whaley, do	do	15	20	8	18	18	79
J. H. Doherty, Midlothian	Sterling	15½	18½	8	18	18½	78½
C. Miller, do	Mammoth Cluster	15	18½	8	19	17½	78
W. R. Irwin, Magnetawan	do	14½	19	8	18	17½	77
Thos. M. Stewart, do	do	14	17	7	18	17½	73½
Wm. Keppy, Spence	Banner	13	18	7½	18	15½	72
Geo. Bell, Port Anson	Mammoth Cluster	13½	18	7	16	16½	71
Wm. Black, Spence	White Marvel	14½	14	7½	17	17½	70½
R. Veitch, do	Abundance	12	18	7½	18	14	69½
Geo. Osborne, Magnetawan	Mammoth Cluster	12½	14	7	17	15	65½
Jno. Brown, Spence	do	15	10	6½	15	17½	64
S. B. Bowerman, Magnetawan	Great Dane	10	13	7	18	13½	61½
MCMURRICH AGR. SOCIETY.							
Judge—Wilson Black, Stroud.							
F. C. Judd, Doe Lake	Banner	16½	20	8	18	22	84½
H. H. Turnbull, do	do	15½	16	8	18	21	78½
W. J. Fowler, Sprucedale	Reg. Banner	14	18	7	18	20½	77½
E. Pearce, do	Banner	14½	17½	7½	17½	19½	76½
Geo. Downs, do	Reg. Banner	13	20	5½	17	20	75½
Robt. Johnson, Doe Lake	$1,000	15	13½	8	18½	19½	74½
C. C. Farrell, Sprucedale	White Western	15½	15	7	17	19½	74
Hy. Watson, do	do	14	17	6½	16½	19½	73½
F. J. Nelles, Doe Lake	Banner	14½	15	7	18	18½	73

NOTE.—The figures in parenthesis at the top of the table are the maximum scores.

RESULTS OF COMPETITIONS IN STANDING FIELL CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
PARRY SOUND.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
McMURRICH AGR. SOCIETY.—*Con.*							
A. E. Taylor, Starrat	Banner	13	15	7	18	19	72
W. H. Emmerling, Sprucedale ..	Abundance	13	17	7	17	17½	71½
Jno. Smith, McMurrich	Banner	14	17	7	15	18	71
P. J. Farrell, Sprucedale	Mammoth Cluster	13½	19	8	11	17½	69
Jas. Downs, do	Gold Drop	13	14	7	16½	18	68½
Marshall & Arnett, do	Banner	12	15	7	18	16	68
Chas. Cudmon, do	Abundance	13	13	7	18	15	66
Hy. Farrell, do	White Western .	13	12	6½	18	15	64½
PERRY AGR. SOCIETY.							
Judge—R. Schuyler, Paris.							
B. Passmore, Emsdale	Banner	17½	25	9	19	19¾	90¼
R. J. Gibson, do	do	18	24½	9	19	19¼	89¾
F. Walker, Royston	Reg. Banner	15½	25	9	20	16½	86
E. Boodway, Emsdale	Banner	18¼	24	9	15	19	85¼
Chas. White, do	Crown Jewel ...	17	24	9	14	21	85
Jno. Craig, Kearney	Monitor	16	23½	8	15¼	21	83¾
Geoffrey Streatfield, Emsdale ...	do	18¾	22¾	8¼	15	18¾	83½
W. E. Streatfield, do ...	Banner	17¾	22½	7½	16	18	81¾
Edgar Rowley, do ...	Scottish Chief ..	16¾	23	7¾	17	17¼	81¼
Thos. Campbell, do	Siberian	16¼	22	8½	16	17¾	80½
D. Shaw, do	.....	14¾	22½	8½	20	14	79¾
Wm. Worsfold, do	Mammoth Cluster	17	22	8¾	10	19¾	77½
Eric Streatfield, do	.....	17¼	14	9¼	16	20½	77
J. A. Marshall, Burk's Falls ...	.....	17½	14	8	16	19¾	75¼
POWASSAN AGR. SOCIETY.							
Judge—E. G. Hogarth, Whitby.							
J. D. Healey, Powassan	Mammoth Cluster	18	21	8½	19	23½	90
Jno. Hogan, do	do	17	21	9	18½	21½	87
P. R. Owens, Alderdale	Banner	15½	23½	8½	18	20	85½
Jos. Alston, Powassan	White Giant	15	23	8	18	18	82
Jno. Paul, do	Banner	14	22	8½	15½	18	78
H. B. Purdon, do	Sterling	16	20	7½	13½	19	76
W. M. Purdon, do	Banner	15	18	7	15	18½	73½
Geo. Oldfield, do	.....	13	18	8½	11	19½	70
Jas. H. Jardine, do	Mammoth Cluster	15	9	8	16½	20½	69
Robt. Johnson, do	do	13½	16	6½	10	19½	65½
STRONG AGR. SOCIETY.							
Judge—Jas. Boyd, Cedar Grove.							
Jas. Prior, Sundridge ..	Reg. Abundance .	13	23	8½	18	22	84½
Wm. Kemp, do ..	White Wave	14	23	7	18	22	84

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	Yield and quality of grain.	Totals of scores.
PARRY SOUND.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
STRONG AGR. SOCIETY.—*Con.*							
Jno. Paget, Sundridge..	Banner	15	23	8	16	20	82
F. W. Hannaford, do ..	do	14	23	6	18	19½	80
Dan. Sinclair, do ..	do	10	24	8	18	20	80
Jno. B. Duke, Hartfell	Garton's Abundance	13	23	7	17½	19	79½
J. L. Anderson, Sundridge	Banner	16	18	6	18	21	79
Jno. Wilson, Hartfell	Garton's Abundance	15	17	8	18	20	78
W. Grant, Sundridge	New Sterling ...	14	18	8	15	22	77
D. Doig, do	White Jewel	13	23	8	12	21	77
J. C. Cunningham, do	Banner	12	23	7	15	19	76
Jas. Duke, Hartfell	Mammoth Cluster	13	24	7	12	19	75
Jno. H. Smith, Sundridge	Banner	9	22	8	18	17	74
G. H. Butsen, do	Great Dane	10	20	7	17	18	72
Thos. A. James, do	Mammoth Cluster	14	18	6	15	19	72
PEEL.							
ALBION & BOLTON AGR. SOCIETY.							
Judge—Wm. Hickson, Bobcaygeon.							
Geo. Downey, Bolton	Banner	18¾	22	8½	19	20	88¼
Albert Robinson, do	Danish White ...	15½	23	7	18	21	84½
Norman Downey, do	Siberian	14	20	8	19	19	80
Jas. Caldwell, do	Irish White	15½	20	8	17	19	79½
A. S. Rutherford, do	Banner	15½	22	6	15	20	78½
E. Armstrong, do	do	16	24	6	11	19½	76½
A. F. Harper, do	Irish White	17½	13	8	17	20	75½
Jas. H. Kellam, Nashville	Siberian	17	14	6	18	19	74
W. H. Monkman, Bolton	Banner	13½	14	8	18	19	72½
O. H. Downey, do	20th Century	14	22	7	10	19	72
PEEL CO. AGR. SOCIETY.							
Judge—M. M. Hunter, Onondaga.							
W. T. Wetherspoon, Humber...	Banner	18½	24	8	19	23½	93
J. A. Fletcher, Brampton	Siberian	16½	24	8	18	22½	89
D. McClure, Huttonville	Tartar King	18	22	7	16	23	86
Walter Baldock, Mt. Charles ..	Darling Special .	17	20	7	19	21	84
W. J. Fraser, Huttonville	Daubeney	16	20	9	17	21½	83½
A. McLean, Snelgrove	Banner	15½	22	7	18	19	81½
B. H. Bull & Son Brampton ...	Siberian	15	20	7	18	19½	79½
Geo. Jackson & Son, Mt. Charles	do	13	20	5	19	18	75
Edwin Tremble, Brampton	White Lothian ..	15	15	5	15	22½	72½
L. J. C. Bull do	Siberian	13	15	7	18	19	72
Butler Wilson, Churchville	Bumper King ...	15	15	5	15	20	70
Waldie Steen, Derry West	Temperance	15	.....	.....	17	21	53

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
PEEL.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
TORONTO TP. AGR. SOCIETY.							
Judge—M. M. Hunter, Onondaga.							
J. W. Miller, Streetsville.....	Wide Awake ...	16	24	9	19	21	89
J. D. Steen, Meadowvale	Dalmeny Special.	14½	23	5	19	20½	82
C. R. Kay, Erindale	Bumper King ...	13	23	9	18	18½	81½
Jno. Weylie, Streetsville	New Century ...	14½	22	8	18	17½	80
D. H. McCaugherty, do	Banner	17	24	5	12	20	78
Wm. Drinkwater, do	Ligowa	14½	20	7	16	19½	77
R. G. Brown, do	White Wave	16	15	5	18	19½	73½
M. B. Nicholson, Lisgar	Abundance	13½	20	7	13	16	69½
F. J. Jackson, Meadowvale	do	16½	.....	8	18	23	65½
Jacob B. Switzer, Lisgar	New Century ...	16	.....	8	18	21	63
Harold L. Hall, Streetsville	Wide Awake	16	.....	7	18	19	60
PETERBOROUGH							
OTONABEE AGR. SOCIETY.							
Judge—R. S. Beckett, Brighton.							
Jno. H. Fife, Lang	Giant Prolific ...	17	22	6	19	20½	84½
Sam. Comrie, Peterborough, R. R., 8	Banner	16½	19	8	17	21	81½
R. A. Drummond, do	Siberian	19	10	8	17½	22½	77
O. Keefe, Keene	Wide Awake	15½	15	8	16	21	75½
Peter Drummond, Peterboro', R. R., 8	Bumper King ...	17½	11	7	18	21	74½
W. A. Nelson, Keene	Danish Swede ..	16	12	8	17	20	73
J. Bishop, do	Banner	15	14	7½	16	20	72½
R. A. Nelson, do	Danish Swede ...	15	12	8	17	20	72
Alex. Wood, Villiers	Irish White	13½	18	7½	15	17	71
Jno. Stark, Lang	Banner	15	12	8	16	19	70
PETERBOROUGH IND. AGR. SOCIETY.							
Judge—R. S. Beckett, Brighton.							
Jno. Buckham, Bensfort	Giant Prolific ...	17	20	7½	18	20½	83
G. Howson, Peterborough, R.R., 8	Early Prolific ...	18½	15	8	18½	22½	82½
R. A. Garbutt, Peterborough, R. R., 4	White Danish ...	17½	15	8½	17	22	80
J. O. Ball, Peterborough, R. R., 3	Sterling	17	15	7½	18	21½	79
Geo. Simpson, Peterborough ..	New Century ...	15	17½	7½	17½	21	78½
G. A. Gillespie, Peterborough, R. R., 3	.....	15½	16	7½	16	21	76
Geo. Hanbridge, Peterborough..	New Century ...	16½	12	8½	17	21½	75½
J. H. Garbutt, Peterborough, R. R., 4	Banner	14½	15	8	18	19	74½
Wm. Steinkrause, Peterborough.	New Century ...	16½	10	8	17	22	73½
R. O. Gibbs, Stewart Hill	do ...	16	10	9	15	22	72
S. Deyell, Peterborough, R. R., 4	.....	16	12	7	16	20	71

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
PRESCOTT.		(20)	(25)	(10)	(20)	(25)	(100)
ALFRED AGR. SOCIETY.							
Judge—M. J. Casselman, Morrisburg.							
Fred. Daoust, Alfred	Banner	18	22	9	18½	21½	89
J. B. Grattan, do	do	17½	23	9	16	20½	86
Sam. Parisien, do	do	17	18	9	17	20½	81½
Jos. Montpellier, Alfred Centre	do	16	18	7	16	21	78
Jos. Robillard, Alfred	do	16	18	8	16	19½	77½
Arthur Daoust, do	do	14	18	9	18	18	77
Fred. Gumett, L'Orignal	do	15½	17	7	14	21	74½
Alex. Langevin, Alfred	do	16	16	9	15	18	74
J. A. Cadieux, do	do	18	13	8	15	19½	73½
P. St. Jean do	do	15½	15	7	15	20½	73
D. D. Grattan, do	do	16	20	9	5	18½	68½
Nap. Lalonde, do	do	14½	10	9	14	18	65½
PRINCE EDWARD.							
AMELIASBURGH AGR. SOCIETY.							
Judge—G. R. Bradley, Carsonby.							
W. J. Barber, Rossmore	Banner	19	24½	8	20	23½	95
Jas. Anderson, Mountain View	do	18	24	8	20	23½	93½
Geo. Anderson, Rossmore	Ligowa	13½	23	9½	18	22½	86½
Harold Young, Rednerville	Banner	18½	18	8½	17	24	86
J. W. Howell, do	do	16½	22	7½	16	23	85
C. C. Wannemaker, Consecon	do	15	24	8½	15½	20½	83½
Jas. Wallbridge, Belleville	Banner	15½	21	8½	18	20	83
Jno. A. Walker, Rossmore	do	15	20	7½	18	21	81½
Ridley Anderson, Mountain View	do	17½	22	8	12½	20	80
W. H. C. Roblin, Ameliasburg	do	13	22	9	16	19½	79½
Ernest Wallbridge, Rossmore	do	14½	20	5	18	19	76½
PRINCE EDWARD AGR. SOCIETY.							
Judge—G. R. Bradley, Carsonby.							
H. D. Leavens, Bloomfield	Imp. Banner	17½	21	10	20	23	91½
A. F. Spafford, Picton	Banner	16½	22	10	18½	22½	89½
M. A. Foster, Bloomfield	do	17	23	8½	18	22½	89
E. B. Purtelle, do	do	17	22	8	17½	23½	88
Garnet Taylor, Wellington	Siberian	15	24	9	18	21½	87½
D. E. Ackerman, Picton	Banner	15½	22	9	18	22½	87
Freeman Talcott, Bloomfield	do	16	23	7	18	21½	85½
T. A. Crawford, Picton	Storm King and others	16½	24	7½	15	21	84
Noah, Trumbel, do	Banner	14½	22	7½	18	20	82
Morden Gilbert, Demorestville	Tartar King	14½	21½	8	17½	20	81½

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OATS.

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PRINCE EDWARD.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
PRINCE EDWARD AGR. SOCIETY.—*Continued.*							
Floyd M. Huff, do ..	Banner	15½	20	8	16	21½	81
Geo. R. Young, Woodrous.....	Banner & Others.	15	22	7	15	21	80
S. J. Foster, Bloomfield	20th Century ...	16½	20	7	15	20½	79
H. H. Huff, do	Banner	14	20	8	16½	19½	78
Richard Benson, Picton	do	14½	20	8	15	20	77½
Angustus Werden, do	do	14	20	8	16½	18½	77
RENFREW.							
ARNPRIOR AGR. SOCIETY.							
Judge—Lemuel Dillabough, Dunbar.							
J. Rafter, Arnprior	Banner	19	24	9	18	20	90
Andrew Russell, do	do	18	24	9	18	20	89
Jno. Brennen, do	do	18	24	9	17	20	88
N. S. Robinson, do	do	15	24	8	18½	22	87½
Jas. Havey, do	Imp. Banner ..	19	20	10	18	20	87
Jas. Wallace, do	Wide Awake	17	20	10	15½	24	86½
Abram Miller, do.....	Banner	17	20	10	15	24	86
Jno. Havey, do	Imp. Banner	17	20	10	15½	23	85½
Thos. Havey, do	do	17	20	10	15	23	85
A. F. Blair, do	Banner	17½	20	9	15	23	84½
G. Lodge, do	Wide Awake	17	20	9	15	23	84
And. Armand, do	Danish Island ...	17	19	9	15	23	83
COBDEN AGR. SOCIETY.							
Judge—S. H. Treverton, Belleville.							
Peter Wilson, Cobden	Banner	18½	25	10	20	23½	97
W. Gemmill, do	Great Dane	17	25	8	18	21	89
W. F. Conlen, do	Banner	16½	22	9	19	21	87½
A. W. Ross, do	do	18	20	9	17	23	87
M. McLaren, do	Great Dane	17	20	9	18	22	86
J. Edwards, Snake River	Jewel	16	20	8	15	22	81
Jno. McDiarmid, Cobden	Banner	12	20	9	18	16	75
NORTH RENFREW AGR. SOCIETY.							
Judge—S. H. Treverton, Belleville.							
Jno. Brown, Beachburg	Great Dane	15	23	10	20	24	97
Clarence McLean, do	do	19½	22	10	19	24½	95
J. M. Metcalfe, do	Bumper King ...	20	22	9	18	24	93
Robt. Bennie, do	Irish White	17½	22	10	19	24	92½

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

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RENFREW.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
NORTH RENFREW AGR. SOCIETY. —*Continued.*							
Jos. Keyes, do	Great Dane	19	20	9	18	23	89
Wm. Headrick, do	do	16½	22	9	19	22	88½
W. H. Metcalfe, do	Bumper King ...	17	20	9	18	22	86
Jno. J. Davidson, do	Banner	17	20	9	20	19	85
Osborne Wright, do	do	17	18	10	18	22	85
Wm. McLellan, Cobden	Great Dane	16	20	8	18	22	84
R. W. Davidson, Beachburg ...	Bumper King ..	15	20	9	15	20	79
R. Dougherty, do ...	Banner	15	15	8	15	22	75
SIMCOE							
BARRIE AGR. SOCIETY.							
Judge—J. W. Hess, Trenton.							
Foyston Bros., Minesing	O. A. C., 72	17	25	7	20	22	91
J. W. Orchard, do	$1,000	17	24	7	19	22	89
Jos. Caldwell, Barrie	Banner	17	23½	8	18	22	88½
Thos. Scythes, Thornton	Waverley	17	24	8	15	22	86
Jas. Coutts, Midhurst	Banner	18	24	6	17	20	85
A. W. Partridge, Barrie	Amer. Banner ..	17	20	8	17	21	83
C. M. Hickling, do	do	15	20	7	18	21	81
R. D. Coutts, Midhurst	Century	14	20	6	16	19	75
J. R. Willson, Dalston	20th Century ...	14	18	8	17	18	75
W. E. Brown, Barrie	Siberian	14	12	7	17	19	60
EAST SIMCOE AGR. SOCIETY.							
Judge—H. W. Hess, Trenton.							
Jno. Lay, Hampshire Mills.....	Mammoth Cluster	16	20	8	17½	22	83½
Jos. Moon, Eady	Banner	18	20	6	18	21	83
W. G. Wilson, Mitchell Square .	Reg. Banner	15	22	6	18½	21	82½
Wm. Cotton, Orillia	Banner	16	23	7	16	20	82
T. M. Hipwell, Price's Corners.	Irish White	16	20	8	16½	21	81½
Jno. C. Harvey, Orillia	Banner	15	24	6	17	18	80
C. S. Harvie, do	Go Up	15	20	7	17	20	79
Thos. Swindle, Ardtrea	Mammoth Cluster	14	20	6	17	21	78
A. Cuppage, Orillia	Banner	14	20	7	15	21	77
SUDBURY.							
WARREN AGR. SOCIETY.							
Judge—H. Knight, Jr., Sault Ste. Marie.							
A. Stewart, Warren	Banner	16½	22	9	19	21½	88
M. Laplante, do, ...	do	15½	24	8	19	20½	87
D. Shea, do	do	17½	19	9	17	22	84½
Thos. Nicholson, do	do	15	20	8	18	20½	81½

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
SUDBURY.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
WARREN AGR. SOCIETY.—*Con.*							
A. A. Montgomery, do	Banner	14	22	8	18	19	81
J. Fraser, Hugel	do	16	19	8½	17	20	80½
Jno. Westren, Kipling	Prince Royal ...	14½	18	9	19	19½	80
A. Rocheleau, Warren	Banner	14½	20	7½	17	20½	79½
P. McDonald, do	do	14	20	8	18	19	79
A. Guthrie, do	do	14½	18	8	18	20	78½
H. Montgomery, do	do	14½	18	7	17	19	75½
A. Gagnon, do	do	14½	18	7	10	19	68½
VICTORIA.							
ELDON AGR. SOCIETY.							
Judge—E. G. Hogarth, Whitby.							
J. & D. J. Campbell, Woodville	Siberian	17	17	9½	19	22½	85
W. G. Wilson, do	Garton's Abundance	17	16	9½	19	22	83½
Jno. McLeod, do	Prince Royal ...	18	15½	9½	18	22	83
Jas. Dixon, do	Newmarket	15	17½	8½	17½	20½	79
D. C. Ross, do	Irish White	18	11	9	17	23	78
Duncan McCuaig, do	Prince Royal ...	18	16	9½	11	22½	77
Jno. Hoar, do	Irish White	17	12	7	17½	21½	75
Geo. McKague, do	Sheffield Standard	14½	19	7	14½	19½	74½
Jos. J. Fisher, Lorneville	Irish White	15½	14	7½	14	21½	72½
A. B. McLeod, Woodville	Sheffield Standard	15½	10	7½	16½	22½	72
Thos. Russell, do	Garton's Abundance	17	13	6½	11	21½	69
EMILY AGR. SOCIETY.							
Judge—Jas. Boyd, Cedar Grove.							
Bert Sanderson, Omemee ...	White Marvel ...	14	22	7	19	16	78
R. H. Johnson, do ...	do ..	17	24	5½	8	23	77½
Geo. McQuade, do ...	Banner	11	20	7	19	20	77
Isaac H. Fee, do ...	.....	17	20	9	5½	23	74½
H. Miller, do ...	Newmarket	13	14	7	19	21	74
Jos. A. Shields, do ...	do	16	14	7	15	21½	73½
F. G. Sandy, do ...	Ligowa	15	14	7	15	22	73
D. H. Dick, do ...	Siberian	15	10	8	18	21	72
Jos. Bradley, do ...	.....	15	15	8	12	21	71
R. E. Ford, do ...	Sensation	12	17	5	8	14	56
FENELON AGR. SOCIETY.							
Judge—Morden Gilbert, Demorestville, R.M.D., 3.							
Arthur Goodhand, Fenelon Falls	Yellow Russian .	15⅔	22	8	18	19	82½
Thos. Isaac, do	Siberian	15	19	9	18	21	82

NOTE.—The figures in parenthesis at the top of the table are the maximum scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
VICTORIA.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
FENELON AGR. SOCIETY.—*Con.*							
Cullis & Lane, Powle's Cors.....	Banner	15	18	9	17	21	80
Jno. Graham, Fenelon Falls ..	Bumper King ...	13	20	6	17	19	75
Jno. Nesbitt, Glenarm	Irish White	13½	14½	7	16	21½	72½
Fred. Smitheram, Fenelon Falls	do	13½	17	7	17	17½	72
Geo. Emrie, do	Newmarket	14	19	4½	15	19	71½
Jas. Slater, Powle's Corners ..	20th Century ...	12	18	7	14	20	71
Warwick Rody, Cambray	Prince Royal	14	16	6	14	19	69
Wm. Hetherington, Fenelon Falls	....	14	17	8	12	17	68
VERULAM AGR. SOCIETY.							
Judge— Jas. Boyd, Cedar Grove.							
C. H. Thurston, Bobcaygeon ..	Yellow Russian .	18	23	9	18	22	90
Ross Kimble, do ..	do .	13	23	9	20	22	87
M. Boyd & Co., do ..	Banner	15	23	8	18	21	85
Jas. Ingram, do ..	Yellow Russian .	15	23½	7	19	20	84½
Robt. Robertson, do ..	do .	14	23	8	18	21	84
Thos. Cosh, do ..	do .	15	20½	8	19	21	83½
Jos. Taylor, do ..	do .	14	22	9	20	18	83
R. Thurston, do ..	do .	16	20	7½	18	21	82½
R. C. Devitt, do ..	do .	14	21	8	19	20	82
Chas. Logan, do ..	do .	13	23	9	19	17	81
Wilbert Anderson, do ..	do .	15½	17	9	18	21	80½
H. R. Seymour, do ..	do .	15½	16	8	18	22	79½
W. J. Killaby, do ..	do .	15	17	8	19	19	78
Robt. Robertson, do ..	Dodd's White ...	14	16	9	16	21	76
J. W. Staples, do ..	Sensation	14	17	7	17	20	75
WELLAND.							
BERTIE AGR. SOCIETY.							
Judge—W. A. Kelly, Aldboro.							
M. W. Sexsmith, Ridgeway ...	Lincoln	17	24	8	19	21	89
Geo. A. Sexsmith, Windmill Point	New Century ...	17	23	8	18	21	87
Chester Fritz, Fort Erie	Danish	17	20	8	18	22	85
J. A. Phillips, do	Newmarket	15	23	8	18	20	84
Wm. Woehl, Ridgemount	Derby	16	22	7	16	22	83
M. Bossert, Ridgeway	Ligowa	16	24	6	16	20	82
Jas. E. Laur, Ridgemount	Derby	16	20	7	16	22	81
A. Merryweather, Bridgeburg .	Yellow Russian .	16	20	7	16	21	80
A. W. Miller, do .	40 Pound	12	20	7	16	20	75
Marshall Gibson, do .	Can. Cluster	12	20	6	16	20	74

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
WELLAND.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
WELLAND AGR. SOCIETY.							
Judge—W. A. Kelly, Aldboro.							
Zenas Marr, Forks Road	Ligowa	17	24	8	19	23	91
D. A. Cohoe, Wellandport	Siberian	17	24	8	18	23	90
Clement Rigg, do	Great Dane	17	23	9	17	23	89
A. Snyder, Forks Road	Amer. Banner ..	17	24	8	17	22	88
Paul Gram, Gas Line	$1,000	16	23	7½	18	23	87½
H. A. Smith, Forks Road	Ligowa	16	24	7	18	22	87
A. E. Howell, Pelham Corners .	Amer. Banner ..	16	22	7	18	23	86
F. A. Kottenmier, Pt. Robinson	Derby	16	23	6	19	21	85
D. H. Cohoe, Wellandport ..	Siberian	15	22	7	18	21	83
A. A. Cohoe do ..	do	14	22	7	18	21	82
Oliver Shoalts, do ..	Ligowa	14	22	7	16	21	80
M. Shafley, do ..	Great Dane	13½	22	8	17	19	79½
J. Roy Page, Chantler	Ligowa	13	22	8	17	19	79
Paul Shafley, Wellandport	Reg. Banner	14	18	7	17	21	77
E. E. Sauer, Ridgeville	$1,000	13	22	7	16	18	76
H. N. Shafley, Forks Road	Reg. Banner	13	20	7	16	19	75
WELLINGTON.							
CENTRE WELLINGTON AGR. SOCIETY							
Judge—F. J. Jackson, Meadowvale.							
Alfred Farrow, Speedside	Abundance	17½	22	8	17	22	86½
Jno. Lowe, Elora	do	17½	20	9	18	21	85½
C. N. Mighton do	do	17	19	9	18	21½	84½
Short Bros., Salem	Reg. Abundance .	17	19	9	18	21	84
L. Sargent, Fergus	Abundance	17½	20	7	18	20½	83
Jas. Grant, Minosa	New Century ...	14½	22	8	18	19½	82
Robt. Tindale, Fergus	Banner	14	22	8	18	19½	81½
Robt. Marshall, Elora, No. 2 ..	do	14	20	8	16	19½	77½
Geo. Armstrong, Speedside	Big Four	13½	19	7	17	19½	76
David Milne, Fergus	Abundance	13½	16	7	17	19½	73
R. T. Pritchard, Elora	Abundance	14	12½	8	16	19½	70
Albert McClelland, Metz	do	14	10	7	15	18½	64½
ERIN AGR. SOCIETY.							
Judge—J. A. Kernahan, Feversham.							
G. D. Fletcher, Erin	Reg Banner	19½	24½	8	18½	23½	94
Smith Griffin, Acton	Abundance	18½	25	9½	18½	22	93½
Ed. Marshall, Erin	Banner	18	24	9	19	21	91
S. Bingham, Wellington	Sterling	18	24	9	19	20½	90½

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
WELLINGTON.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
ERIN AGR. SOCIETY.—*Continued.*							
E. Barbour, Erin	Stirling	16	22½	10	18½	23	90
D. Cowan, Hillsburg	do	16½	23½	8	18	23	89
Alex. McKinnon, do	Bumper King	16½	23	8	18	23	88½
R. Overland, do	Sterling	17½	24	8½	18	20	88
Jno. Smith, Marsville	Reg. Banner	17½	22	8	18	22	87½
Jno. Matheson, Hillsburg	Waverley	17	20	9	18	22½	86½
Albert Brown, Brisbane	White Wave	16	24	6	19	20	85½
W. Usherwood, Osprey	Amer Beauty	17½	24	5	17	21½	85
J. W. Burt & Son, Erin	Ligowa	15	23½	8	16	21½	84
Davis & Sons, do	Banner	17½	16	9	18	23	83½
Jas. Gillespie, do	Bumper King	16½	24	5	16	21½	83
Jas. Coke & Sons, do	Abundance	17	24	4	16	21½	82½
C. McMillan, do	20th Century	18	23	8	10	23	82
W. W. Young, do	Bumper King	16½	24	8	12	21	81½
Fred. McMillan, Hillsburg	Silver King	18	15	8	17½	22	80½
J. W. Leitch, Ospringe	Sterling	16	20	5	18	21	80
M. McKinnon, Hillsburg	Banner	18	15	7	18	21	79
R. McHenry, Erin	do	16	.....	8	19	22	65
Sinclair Bros., do	do	17	.....	9	18	20	64
Angus McLean, do	do	17	.....	8	17	21	63
Jno. Binnie, Brisbane	White Wave	15½	.....	8	19	20	62½
MT. FOREST AGR. SOCIETY. *Judge—J. A. Kernahan, Feversham.*							
Donald McQueen, Mt. Forest	Banner	17½	24	9	18	21½	90
M. J. O'Connell, do	.....	18	23	8	18	22	89
Alf. Hutchison, do	Siberian	18½	20	10	18	22	88½
Jas. Anderson, do	Abundance	17	23	6	18	22½	86½
W. J. Wallace, do	White Russian	18½	20	9	18	20	85½
Jas. Williamson, do	Banner	14	24	8	15	20½	81½
R. Wilkins, Harriston	Lincoln	15	24	4	18	19	80
Jas. McEachern, Mt. Forest	Siberian	16	15	8	17½	22	78½
J. S. Woods, do	Banner	15	16	8	18	21	78
D. Murphy, do	Abundance	20	5	6	18	23	72
Jno. Campebll, do	Plentiful	15	10	8	10	23	66
PUSLINCH AGR. SOCIETY. *Judge—F. J. Jackson, Meadowvale.*							
D. A. McLean, Corwhin	Abundance	16	23	8	19	22	88
J. A. Cockburn, Puslinch	Sensation	16	22	8½	19	22	87½
Hector McCaig, Hespeler	Lincoln	16	23	8	18	22	87

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
WELLINGTON.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
PUSLINCH AGR. SOCIETY.—*Con.*							
J. W. Kerr, Corwhin	do	15	22	8½	19	22	86½
Philip Crinless, Guelph	White Wave	16	22	8	18	22	86
Alex. McLean, Corwhin	Banner	15	20	8½	19	22	84½
I. T. Knight, Arkell	E. Derby	16	21	7	18	22	84
Jno. Walsh, Guelph	Sensation	16½	19	8	18	22	83½
Ben Tolton, do	Amer. Beauty	15½	20	6	18	22	81½
Jno. McNulty, do	Lincoln	15	20	6	18	21	80
P. J. McLean & Sons, Corwhin	Banner	15½	12½	8½	19	22	77½
Peter Beaver, Morriston		15½	10	8½	16	22	72
WENTWORTH.							
WEST FLAMBORO AGR. SOCIETY.							
Judge—G. W. Buchanan, Dutton.							
Hugh Drummond, Millgrove	Abundance	16	20	7	17	19	79
Herbert Walker, Strabane	Banner	15	19½	7	16	17¾	75¼
Jas. Markle Millgrove	Abundance	14½	19½	7	16	18	75
Jas. Gartley, Strabane	20th Century	14½	19	6½	16	16½	72½
Jno. Cartwright, do	Lincoln	13¾	18	7	17	16¼	72
Jas. A. Gray, Freelton	Waverley	14¼	18	7	17	15½	71¾
Morrison Bros., Ira	Siberian	14½	16	7½	15	18	71
R. W. Lothian, Strabane	Lincoln	14	16	7½	16	13½	67
Jno. Duncan, Waterdown	Golden Fleece	12½	16	6	12	13¾	60¼
Ed. Harris, Millgrove	20th Century	12½	16	6	12	13½	60
YORK.							
SCARBORO AGR. SOCIETY.							
Judge—E. B. Purtelle, Bloomfield.							
W. G. Rennie, Ellesmere	Lincoln	17	22	9	20	21	89
Jno. Kennedy, Agincourt	do	16	23	9	18	22	88
G. B. Little, Brown's Corners	Banner	19	16	8	20	23	86
H. K. Clark, Agincourt	Imp. Banner	16	20	9	18	22	85
Wm. Stirling, Brown's Corners	Banner	14	23	8	17	22	84
Jno. Baird, Woburn	Abundance	13	25	8½	18	19	83½
J. M. T. Weir, Malvern	White Cluster	13	24	8¼	18	20	83¼
Robt. Stirling, Brown's Corners	Lincoln	15	19	9	18	22	83
Jno. Hall, Woburn	Banner	19	20	5	16	22	82
A. J. Paterson, Ellesmere	do	16	20	8	18	20	82
Wm. Green, Agincourt	White Cluster	13	23	8	16	21	81
J. T. Weir, Malvern	20th Century	15	17	8	19	21	80
Roy Weir, Brown's Corners	White Cluster	10	16	8	16	20	70

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

OATS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
YORK.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
SCHOMBERG AGR. SOCIETY.							
Judge—Wm. Hickson, Bobcaygeon.							
W. G. McKay, Bradford	Banner	17	15	6	19	22½	79½
Harold Thompson, Schomberg	Banner and W. Jewel	16	23	8	10	22	79
Fred Amey, do	Banner	17½	15	8	14	22	76½
Palmer Bros., do	Abundance	19½	5	9	19	23	75½
Hilson Brydon, do	Ligowa	17	10	9	15	22	73
Jas. McDevitt, Bradford	Newmarket	17½	14	7½	10	23	72
Addis Winter, Schomberg	Bumper King	18	5	8	18	22	71
Elijah Wray, do	Empire	18½	.....	9	16	23	66½
Robt. Sutherland, Bradford	Banner	16½	.....	9	18	22	65½
Edward Merchant, Lloydtown	Newmarket	18¼	5	8	12	22	65¼
Neil McDonald, Schomberg	do	17½	.....	9	15	22	63½
Alfred Lloyd, Lloydtown	do	18¾	.....	8½	14	22¼	63½
Joshua Courtney, Schomberg	Banner	18½	.....	8	12	22½	61

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

BARLEY

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
BRANT.		(20)	(25)	(10)	(20)	(25)	(100)
ONONDAGA AGR. SOCIETY.							
Judge—G. W. Glover, Nottawa.							
D. B. Campbell, Cainsville	O. A. C. 21.....	17½	24	9½	20	23½	94½
M. H. Hurd, Onondaga	do	17	24	9½	19½	24	94
F. Thomson, Cainsville	do	17	23	9	19	23½	91½
Geo. Simpson, Onondaga	do	17	22	9½	19½	22½	90½
Geo. Thomson, Cainsville	do	17	24	9	18	22	90
A. A. Fair, do	do	15½	24	8	19	22½	89
Jas. Pate, Brantford	do	16	24	9	17½	22	88½
H. Preiss, Tuscarora	do	15	24	9	18	22	88
Zeno Deagle, Onondaga	do	16½	21	9	15	22	83½
Geo. E. Wood, do	do	13½	24	8	15	20½	81
R. J. Robertson, do	do	16½	14	8	18	22	78½
Robt. Wood, Jerseyville	do	16	21	8	10	21½	76½
S. J. Simpson, Onondaga	do	16	13	8	18	21	76
Ira Baker, Cainsville	do	16	6	8	18	22	70
DURHAM.							
W. DURHAM AGR. SOCIETY.							
Judge—E. B. Purtelle, Bloomfield.							
Sam. Rickard, Bowmanville ..	O. A. C. 21	16	20	10	18	22	86
Jas. Leask & Son, Taunton	do	14	20	8	18	22	82
Arthur W. Annis, Tyrone	do	14	23	8	17	19	81
W. J. Clemence, Bowmanville .	do	15	20	8	16	20	79
T. H. Clemence, do ..	do	16	16	10	17	19	78
W. J. S. Rickard, do ..	do	16	18	8	15	20	77
W. E. Jewell, do ..	do	14	15	9	16	22	76
A. W. Clemence, Tyrone	do	13	23	7	14	18	75
Hugh Greenlees, Bowmanville .	do	14	15	8	15	21	73
W. J. Bragg, do ..	do	12	18	8	16	19	73
J. Baker, Solina	do	13	18	7	16	18	72
J. F. Osborne, Bowmanville ...	do	12	15	7	18	18	70
T. Baker, Solina	do	14	12	8	15	21	70
GREY.							
ROCKLYN AGR. SOCIETY.							
Judge—D. McClure, Huttonville.							
C. T. Fisher, Griersville	Mandscheuri	15	18	8	16	18½	75½
Jno. Johnston, Rocklyn	O. A. C. 21	16½	9½	8	18	22	74
Jos. W. Patton, do	do	15½	.....	9	18	22	64½
Jos. Manarey, Goring	do	14½	10	9	12	15½	61
Jno. Kirkpatrick, do	Mandscheuri	16	.....	9	16	18½	58½

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

BARLEY.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	‡Totals of scores.
GREY.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
ROCKLYN AGR. SOCIETY.—*Con.*							
Geo. McKenzie, Rocklyn	Mandscheuri	14½	.....	9	17	17	57½
J. Murray, Blantyre	do	15	.....	8	17	15½	55½
Sylvester Clarke, Rocklyn	O. A. C. 21	14½	.....	9	12	18½	54
Herbert McKenzie, Fairmount	do	14½	.....	8	12	17½	52
Thos. Lanktree, do	do	14	.....	8	14	15	51
J. N. Perry, do	do	12½	.....	9	15	12½	49
C. G. Devitt, Rocklyn	Mandscheuri	13½	.....	9	12	14	48½
WALTER'S FALLS AGR. SOCIETY.							
Judge—D. McClure, Huttonville.							
F. E. Wickham, Walter's Falls	O. A. C. 21	16	15	9	19	21	80
Jno. Heighes, do	Mandscheuri	14	15	9	18	20½	76½
T. G. Quinton, do	do	17½	10	9	17	22	75½
Jas. Bowes, Strathnairn	O. A. C. 21	16	12	9	17	21	75
Jno. Thorn, Walter's Falls	do	16	12	9	16	21	74
Thos. Lemon, do	do	14½	12	9	19	17	71½
Sam. Marshall, do	do	16	.....	9	17	21	63
Geo. T. Reed, Goring	do	17½	.....	8	17	20	62½
Alfred Ward, Walter's Falls	do	14	10	9	10	18½	61½
C. W. Saunders, do	Mandscheuri	14	.....	8	17	15	54
Geo. Anderson, Strathavon	O. A. C. 21	13	.....	7	16	15½	51½
Robt. Miller, Bognor	Mandscheuri	14½	.....	6	15	15½	51
HURON.							
BLYTH AGR. SOCIETY.							
Judge—Conrad Rebsch, Erie View.							
Oliver Hemmingway, Brussels	O. A. C. 21	17	16	8½	18	21	80½
Jas. Snell, Clinton	Mandscheuri	17	18	9	14½	21½	80
D. Robertson, Brussels	O. A. C. 21	16½	17	8	17½	20½	79½
R. R. Sloan, Blyth	do	15½	17	9	17½	20	79
A. W. Sloan, do	do	15	16½	9	17½	20½	78½
R. W. Shortreed, Walton	Mandscheuri	17	18	9	13	21	78
F. Toll, Blyth	O. A. C. 21	16½	17	8½	16	19½	77½
Wm. Watson, do	do	16½	14	8½	17½	20½	77
Russell Richmond, do	Mandscheuri	17	17	9½	12	21	76½
Duncan McCallum, do	O. A. C. 21	14½	17	8½	16	20	76
Jas. Jackson, do	Mandscheuri	16	14	8	16½	20½	75
R. Wightman, do	O. A. C. 21	15	15½	8½	16½	19	74½
Jno. Barr, do	do	14½	15	8	16½	19	73
R. B. McGowan, do	do	14½	10½	8	17½	20	70½
Wesley Beacon, Blyth, R.R., 1	do	12½	12	9½	18	18	70
C. H. Wightman, Belgrave	do	12½	15	8½	16	17½	69½
W. McGowan, Blyth	Mandscheuri	15	10½	9½	15	19	69
Gray Bros., Landesborough	O. A. C. 21	12½	13	9	17	17	68½

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RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

BARLEY.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
PRINCE EDWARD		(20)	(25)	(10)	(20)	(25)	(100
SOPHIASBURG AGR. SOCIETY.							
Judge—Wm. Higginson, Inkerman.							
Urias Nelson, Demorestville ...	O. A. C. 21	19½	24	9	19	23½	95
D. H. Fraser, Northport	do	18	23	9	18	22	90
E. W. Gorsline, Demorestville .	do	18	21	9	19	22	89
T. W. Mills, do .	do	17	23	8	17	23	88
W. A. Foster, Picton	Mandscheuri	17	22	8	18	21	86
Walter Trumble, do	O. A. C. 21	16	23	9	17	20	85
F. R. Morden, Demorestville ...	do	16	20	8	18	21	83
Morden Gilbert, do ...	do	15	21	9	17	20	82
Charles McDonald, Elm Brook .	Blue Ribbon	16	20	8	16	20	80
Thos. Hutchens, Picton	O. A. C. 21	14	23	6	16	18	77
C. T. Ward, do	do	14	16	8	17	20	75
SIMCOE.							
NOTTAWASAGA & G. NORTHERN AGR. SOCIETY.							
Judge—D. J. Gibson, Bowmanville.							
Alex. Morrison, Smithdale	O. A. C. 21	15	22	9	19	21	86
Alex. Doner, Stayner, R.R., 2 .	do	17	18	9	19	22	85
J. A. McDermid, Batteau	do	13	20	9	18	19	79
W. H. Davis, do	Mandscheuri	12	23	8	16	19	78
Robt. Howick, Smithdale	O. A. C. 21	14	16	7	18	22	77
A. J. Harkin, Cashtown	do	16	16	8	15	21	76
Geo. Spearing, Batteau	do	14½	16	8	17	20	75½
P. T. McDermid, Duntroon	do	13	15	9	17	19	73
Jno. McKee, do	do	11	15	9	18	19	72
Jno. Fisher, Batteau	do	13	15	8	15	20	71
Hy. Davis, do	do	13	13	7	17	19	69
G. W. Glover, Nottawa	do	9	14	7	18	13	61
YORK.							
RICHMOND HILL AGR. SOCIETY							
Judge—D. J. Gibson. Bowmanville.							
W. H. Clubine, Thornhill	O. A. C. 21	16	22	9	19	22	88
Robt. Tyndall, Richmond Hill .	do	15	18	10	18	22	83
F. A. Legge, Jefferson	do	14	23	8	18	19½	82½
F. A. Clarke, Headford	do	16	20	8	16	22	82
Jonathan Brillinger, Richmond Hill	do	13	24	8	15	21	81
Jno. S. McNair, Elgin Mills	do	15	18	9	17	21	80
Jas. McLean, Richmond Hill ..	do	16½	14	8	17	22	77½
Chas. Palmer, do ..	do	15	18	8	14	21	76
Jacob Lunan, Victoria Square .	do	17	14	8	15	21	75
Wm. Palmer, Richmond Hill ..	do	13	19	6	17	18	73
Jas. Boyle, do ..	do	15	10	8	18	20	71

NOTE.—The figures in parenthesis at the top of the table are the maximum scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

FALL WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
PERTH.		(20)	(25)	(10)	(20)	(25)	(100)
KIRKTON AGR. SOCIETY.							
Judge—Wm. Scarf, Durham.							
R. S. McCullough, Science Hill	Abundance	19	23	9	19	23½	93½
Wesley Shier, Woodham	Dawson's G. Chaff	18	24	9	19	22½	92½
Ratcliffe Bros., Anderson	Abundance	19	20	9½	19	24½	92
Jas. Squires, Woodham	do	20	23	9	16	23	91
Perry F. Doupe, Kirkton	do	19½	20	9½	17½	23½	90
Ed. Copeland, do	do	17½	23½	9	17	22½	89½
W. J. Robinson, do	do	19	19	9	18½	23½	89
M. Brethin, St. Mary's	do	17½	23	9	17	21½	88
W. Denham, Kirkton	do	17	20	10	17	23	87
Hooper & Sons, Woodham	do	16½	21	9	19	21	86½
M. Thompson, do	do	19½	21	9	13	23½	86
H. Squires, Whalen	Scott	19	23	9	11	24	86
H. Rodd, Woodham	Abundance	16	19	9	18	23	85
Percy Sparling, Science Hill	do	16½	22	8½	16	21½	84½
Geo. Squires, Granton	Scott	17	19	8½	16	22½	83
Arthur Doupe, Thames Road	Abundance	18	18	9	17	21	83
W. Kirk, Woodham	do	17½	18	9	17	21	82½
Ephraim Heron, Kirkton	do	18	20	9	10	23	80
J. H. Robinson, Anderson	do	14½	22	6	16½	20	79
S. McNaughton, Granton	do	16	17	9	17	20	79
I. Marshall, Kirkton	do	17	16	8	17	20	78
Robt. Hazelwood, do	Dawson's G. Chaff	15½	15	8	17	21	76½
Rich. Gingard, Woodham	do	15	15	8	17	19	74
WATERLOO.							
S. WATERLOO AGR. SOCIETY.							
Judge—Jos. Orchard, Minesing.							
Geo. R. Barrie, Galt	Dawson's G. Chaff	18½	24	8½	19	23½	93½
J. A. Gillespie, Ayr.	do	16	24	9½	18	24	91½
A. S. Clemens, Hespeler	do	19	25	6	18	23	91
Jos. Taylor, Galt	do	17½	23	9	17	24	90½
W. C. Shaw, Hespeler	Golden Jewel	15	24½	8½	19	22	89
R. S. Oliver, Branchton	Dawson's G. Chaff	16	23	7½	18	23	87½
Rich. Floyd, Galt, R.R., 1	do	14½	23	9½	17½	21½	86
G. P. Moore, Galt	do	18	22	8	16½	21	85½
Alex. Cowan, do	Golden Jewel	14	22½	9	18	21½	85
Jas. Lake, do	Dawson's G. Chaff	15½	22½	8	17½	21½	85
R. & A. Oliver, do	do	15	21	9½	17	21½	84
W. Johnston, do	do	11½	23	9	18½	20	82
Arch. Hall, do	do	13	22	9	17	20	81
Thos. Young, do	do	16	20	5	16	21½	78½
Rich. Martin, do	Golden Jewel	13	20	8½	16	17	74½

NOTE.—The figures in parenthesis at the top of the table are the maximum scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

FALL WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
YORK.		(20)	(25)	(10)	(20)	(25)	(100)
NEWMARKET AGR. SOCIETY.							
Judge—Cecil Schuyler, Brantford.							
Jesse Stonehouse, Keswick	Dawson's G. Chaff	17	22	10	19	22½	90½
S. Lemon, Kettleby	do	17½	22	9	19	23	90
Jno. Boag & Sons, Queensville .	do	17	20	9	19	22½	87½
Wm. Thompson, Aurora, R.R., 2	Winter King ...	16	23	9	18	20½	86½
Walter Proctor, Newmarket	Dawson's G. Chaff	15	21	9	19	22	86
Jno. Proctor, do	do	15	21	9	18	22	85
Wm. Marritt, Keswick	do	17	19	9	18	20	83
R. Pinder, Aurora	Red Clawson ...	15	18	9	16	20	78
E. Hammer, do	Dawson's G. Chaff	14	18	8	18	18	76
Wm. Tansley, Sharon	Rennie's Satisfaction	14	18	8	16	19	75

NOTE.—The figures in parenthesis at the top of the table are the maximum scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

SPRING WHEAT

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	†Yield and quality of grain.	Totals of scores.
NIPISSING.		(20)	(25)	(10)	(20)	(25)	(100)
NEW LISKEARD AGR. SOCIETY							
Judge—J. L. Tennant, Renfrew.							
Robt. Jelly, Liskeard	Red Fife	19	25	8	18	22½	92½
Jno. McFarlane, do	do	19	24½	7½	18	22½	91½
Wm. McFarlane, do	do	19	23	8½	16	22½	89
Isaac Chester, Hillview	do	18½	22½	9½	15	22½	88
R. D. Chester, Liskeard	do	18	22	9	16	22	87
E. F. Stephenson, do	do	16½	23	9	18	20	86½
Jno. McChesney, do	do	17½	20	8½	16	22	84
Jas. Carter, do	do	15	23	8½	16	20½	83
And. Chester, do	do	14	22	9	14½	21	80½
J. H. Davis, do	do	17	15	9	17	21½	79½
RENFREW.							
RENFREW AGR. SOCIETY.							
Judge—C. F. Whittaker, Williamsburg.							
Lewis Galbraith, Renfrew, R. M D. 3	White Fife	19	15	9	18	22	83
G. MacIntyre, Renfrew, R. M. D. 1.	Marquis	15	13	10	18	21	77
D. Muirhead, Renfrew, R. M. D. 2	White Fife	19	10	9	14	23	75
H. Barr, Jr., Douglas, R. M. D.	do	15	13	9	18	19	74
D. B. Stewart, Renfrew	Marquis	18	11	10	16	18	73
P. H. Bolger, Renfrew, R. M. D. 2	White Fife	17	18	9	12	16	72
R. B. Leitch, Renfrew, R.M D.	do	18	13	9	15	16	71
Alex. Leitch, do	do	18	13	9	10	20	70
Jno. Stewart, Renfrew	do	14	18	9	14	14	69
W. Galbraith, Renfrew, R.M.D. 3	do	17	8	8	15	20	68
YORK.							
MARKHAM AGR. SOCIETY.							
Judge—C. Schuyler, Brantford.							
P. W. Boynton & Son, Dollar ..	Goose	18	24	8	19	22½	91½
L. Summerfeldt, Unionville ...	do	17	22	9	17	22½	87½
Orson Hemmingway, Hagerman.	do	17½	20	9	18	22½	87
Jas. Rennie, Milliken	do	17½	23	8	18	19½	86

NOTE.—The figures in parenthesis at the top of the table are the maximum scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

SPRING WHEAT.

Competitors in Order of Merit.	Name of variety.	*General appearance	Freedom from weeds.	Freedom from rust, blight and insects.	Freedom from other varieties and other kinds of grain.	Yield and quality of grain	Totals of scores.
YORK.—*Continued.*		(20)	(25)	(10)	(20)	(25)	(100)
MARKHAM AGR. SOCIETY.—*Con.*							
J. I. Balsden, Milliken.....	Goose	16½	20	8	18	21½	84
H. Hammond, Unionville	do	15½	22	7	18	20	82½
R. S. Frisby, Victoria Square .	do	14½	20	8	19	19	80½
R. B. Johnson, Stouffville	do	15	22	8	17	18	80
Geo. Morrison, Markham	do	14½	18	8	18	19	77½
H. Malcolm, Brougham	do	15½	12	8	18	20	73½
Jno. Gibson, Milliken	do	15	15	6	17	19	72
D. J. Wesley, Markham	do	13	8	8	16	13	58

NOTE.—The figures in parenthesis at the top of the table are the maximum scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	†Yield of fodder and grain.	Totals of scores.
DURHAM.		(20)	(5)	(20)	(15)	(40)	(100)
ORONO AGR. SOCIETY.							
Judge—S. M. Pearce, Iona.							
A. A. Powers, Orono	White Cap Yellow Dent	15	5	17	13	20	70
J. A. Tamblyn, do	Leaming	13½	5	15	15	15	63½
C. A. Chapman, do	White Cap Yellow Dent	12	5	17	15	14	63
J. S. Robertson, do	Leaming	13	5	12	14	18	62
Cecil Powers, do	White Cap Yellow Dent	13½	5	14	14	14	60½
Robt. Gray, Newcastle	do	10½	5	13	15	16	59½
D. T. Gibson, do	do	12	5	12	15	15	59
G. A. Cain, Bowmanville, R.R. 4	North Dakota	11	5	15	15	9	55
D. Moffatt, Orono	Minnesota King	11½	5	10	15	12½	54
Rich Brown, do	White Cap Yellow Dent	10	5	11	15	9	50
ELGIN							
ALDBOROUGH AGR. SOCIETY.							
Judge—W. E. J. Edwards, Essex.							
R. J. Spence, Rodney	8-rowed Yellow	19	4¾	18½	14¼	28¼	94¾
Jas. Ellison, Wardsville	White Cap Yellow Dent	19¼	4¾	20	13	36½	93½
Arch. Maccoll, Rodney	Compton's Early.	18¾	4½	17½	14¾	37	92½
D. Purcell & Son, Wardsville	Yellow Dent	18¼	4¾	19¾	14½	34	91¼
C. Mellon, Rodney, R. R. 3	W. F. North Dakota	18¼	4¾	18	14½	34½	90
J. A. King, Wardsville	Wisconsin Yellow Dent	18½	4½	18½	14½	33	89
E. Purcell, do	White Cap Yellow Dent	17¾	4¾	19½	14½	32	88½
E. Valentine, West Lorne	do	15¾	4¾	19¾	14	33	87¼
R. A. Kerr, Rodney, R.R. 3	Strawberry Dent	17¼	4¼	16	14¾	34¾	87
Alex. Lochore, Rodney	8-rowed Yellow, Red White and Yellow mixed	19	4½	18	8	36¾	86¼
Duncan Carmichael, Jr., West Lorne	Compton's Early.	14¾	4¾	18	14¾	33	85¼
Jacob S. Zoller, West Lorne, R. R. 2	Midnight Angel	16	4½	17	14	33	84½
B. Heilman, Rodney	Strawberry Dent	17¼	4¾	17	13	32	84
Wm. Hornal, do	White Cap Yellow Dent	16	4½	17½	13	32	83

*General appearance.—Considering uniformity and stand of crop, type of plant, and vigour of growth, and method of planting.

†Yield of fodder and grain.—Considering quality and quantity of fodder, type as regards size, shape and yield of ears, uniformity of ear, size and depth of kernels. variety considered.

NOTE.—The figures in parenthesis at the top of the table are the maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	†Yield of fodder and grain.	Totals of scores.
ELGIN.—*Continued.*		(20)	(5)	(20)	(15)	(40)	(100)
ALDBOROUGH AGR. SOCIETY.—*Con.*							
J. B. Buchan, do	Longfellow	15½	4¾	16	14½	31½	82¼
Jno. Hardy, Rodney, R.R. 2 ...	Red Glaze	15¼	4½	17	13	32	81¾
Hy. Reid, Rodney	....	15¾	4½	14	14	31	79¼
WEST ELGIN AGR. SOCIETY.							
Judge—W. E. J. Edwards, Essex							
J. L. Pearce, Wallacetown	Pearce's Prolific.	18½	4½	19	14¾	38	93¾
A. A. Berdan, Alliance	Mich. White Flint	17½	4¾	18	15	28	93¼
J. E. Pearce, Wallacetown	Longfellow	17¾	4¾	18½	14½	35½	91
Jno. McKillop, Eagle	White Cap Yellow Dent	17¾	4¾	19½	13¾	34¾	90½
J. A. Page, Wallacetown	Red Glaze	17¾	4	18	14	36	89¾
T. W. Garbutt, do	Longfellow	18	4	18½	12½	36¼	89¼
Jno. P. Morrison, Dutton	Pearce's Prolific.	17	4	17	14½	35¼	87¾
Alex. McMillan, do	do .	16¼	4½	17	14¼	35½	87½
Robt. A. Kerr, Rodney, R.R. 3 .	Strawberry Dent.	17¼	4¼	16	14¾	34¾	87
Rich. Smith, Dutton	White Cap Yellow Dent	17	4	19	13½	33	86½
Wm. Patton, do	Leaming	17½	4½	15	14	35¼	86¼
E. H. Pearce, Wallacetown	Pearce's Prolific.	18	4½	15	14¾	32½	84¾
Jno. McPherson, Crinnan	Leaming	16½	4½	18	12	32½	83½
Arthur A. Gow, Wallacetown ..	White Cap Yellow Dent	17	4¼	18	11	31½	81¾
S. M. Pearce, Fingal.....	....	17¼	4¾	14	14½	31	81½
Daniel McAlpine, Dutton	Yellow Dent	16½	4½	14	12	33½	80½
ESSEX							
AMHERSTBURG, ANDERDON & MALDEN AGR. SOCIETY.							
Judge—G. P. McRostie, Chatham.							
W. Anderson, Malden Centre .	Wisconsin No. 7 .	19¼	3½	19¾	14½	37⅜	94⅜
Gordon Deneau, N. Malden, R. R. 1	Leaming	19¼	3½	19¾	14	38	94½
Jno. Parks, Amherstburg	Wisconsin No. 7.	19	4¾	19½	15	36½	94¼
T. J. Shepley, do	do .	19¼	4½	16½	15	38¾	94
G. W. Sellers, N. Malden	Early Rochester .	18¾	3½	19¾	14½	37⅜	93⅝
T. E. Mahon, Auld	Leaming	19¼	4	19¾	14	36¾	93¾
Ed Deneau, N. Malden	White Cap	19	4¾	19½	14½	36½	93½
James Martin, Amherstburg ...	Wisconsin No. 7..	19	4¼	19¼	14¾	36	93¼

*General appearance.—Considering uniformity and stand of crop, type of plant, and vigour of growth, and method of planting.

†Yield of fodder and grain.—Considering quality and quantity of fodder, type as regards size, shape and yield of ears, uniformity of ear, size and depth of kernels, variety considered.

NOTE.—The figures in parenthesis at the top of the table are the maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	†Yield of fodder and grain.	Totals of scores.
ESSEX.—*Continued.*		(20)	(5)	(20)	(15)	(40)	(100)
AMHERSTBURG, ANDERDON AND MALDEN AGR. SOCIETY.—*Con.*							
Chas. Meikle, Amherstburg	Leaming	18¾	4½	19½	14¾	35¼	92¾
Israel Reneaud, Auld	Leaming	19¼	3½	19¾	14	36	92½
Jas. Pettypiece, do	White Cap	18¾	3½	19¾	14½	35¾	92
Fred Squires, Malden Centre...	Wisconsin No. 7.	18	4¼	18	14½	37	91¾
Patrick Powers, Auld	White Cap	19	3½	19¾	14	35½	91¾
Frank McGee, N. Malden	do	18¾	4½	17	14¼	37	91½
Alex. Sinasac, Auld	do	17½	3½	18	14	36	89
COMBER AGR. SOCIETY. *Judge—W. H. J. Tisdale, Brampton.*							
J. S. Ainslie, Comber	Leaming	18½	4	18¼	14	38	92¾
Thos. G. Breen, do	Gold medal	19	4	18	14	36¾	91¾
A. Caza, . do	Leaming	18½	4½	18½	14	35	90½
R. Bruce Keith, do	do	17	4½	17¾	14¼	35½	89
Edward Hise, do	White Cap	18¼	4	14	14½	37¾	88½
Lewis Dietrich, do	do	16½	4½	16	14½	36	87½
B. Brown, do	do	16	4	18½	14½	34	87
Victor Maillioux, do	do	16½	4½	14½	14	36	85½
R. W. Knister, do	Bailey	15½	4	13½	14½	37½	85
Jno. Frankfurth, do	Yellow Dent	16	4½	13	14¼	35½	83¼
Napoleon Gangier, do	Leaming	14½	4	17	13	32½	81
O. D. Gangier, do	do	13¾	4	16	14	31½	79¼
Ludger Gangier, do	Wisconsin No. 7.	12¾	4	15½	13¾	30	76
A. C. Gangier, do	White Cap	12¼	3¾	14	13	29¾	72¾
ESSEX CO. AGR. SOCIETY. *Judge—G. P. McRostie, Chatham.*							
A. E. Wismer, Essex	Wisconsin No. 7.	19	4	19	14¾	38¼	95
Alvin Ellis, Edgar's Mills	White Cap	19	4¼	18½	14¾	38	94½
M. Robinson, Essex	Silver King	18½	4½	18¼	14¾	38¼	94¼
J. B. Farough, Maidstone	White Cap	18½	4½	19	14¾	36¾	93½
Alfred Woltz, S. Woodslee.....	Golden Glow	18¼	4¼	19¼	14	37¼	93
J. H. Coatsworth, Kingsville ..	Coatsworth's Hybrid	18	4½	18¾	14	37¼	92½
Chas. Farough, Maidstone	Yellow Dent	19	4	18¾	14½	36	92¼
Russell Rodgers, Kingsville	Wiley	18	4¼	18	14	37¾	92
Albert Farough, Maidstone	White Cap	18¼	4¼	18½	14½	36¼	91¾

*General appearance.—Considering uniformity and stand of crop, type of plant, and vigour of growth, and method of planting.

†Yield of fodder and grain.—Considering quality and quantity of fodder, type as regards size, shape and yield of ears, uniformity of ear, size and depth of kernels, variety considered.

NOTE.—The figures in parenthesis at the top of the table are the maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	†Yield of fodder and grain.	Totals of scores.
ESSEX.—*Continued.*		(20)	(5)	(20)	(15)	(40)	(100)
ESSEX CO. AGR. SOCIETY.—*Con.*							
Achille Mousseau, Woodslee	Wisconsin No. 7.	18¼	4½	16	15	37¾	91½
Robt. Shuel, Paquette	White Cap	18	4½	17	13¼	38½	91¼
Jos. Robinson, Essex	White Cap	17½	4½	18	14	37	91
H. G. Arnold, Maidstone	do	17¾	4½	19	14	35½	90¾
Lewis Robinson, Essex	Yellow Jumbo ..	17¼	4¾	18¾	13	36¾	90½
A. Boudy, do	Reed's Yel. Dent	17¾	4½	17¾	14	36	90
Geo. Lapointe, do	White Cap	17½	4½	18½	14	35½	90
Wm. Thomas, do	do	17¾	4½	17	14	36½	89¾
Jas. Toffermin, do	do	16¼	4½	18	14	35¼	88
Jno. Roadhouse, do	Yellow Dent	17	4½	17¾	13	34¼	86½
S. WOODSLEE AGR. SOCIETY.							
Judge—S. M. Pearce, Iona							
B. R. Cohoe, S. Woodslee	Wisconsin No. 7.	18	4½	19	14½	34	90
S. Diemer, Woodslee	do	18½	5	17½	14	32½	87½
F. Dornton, S. Woodslee	White Cap Yellow Dent	17	4½	18	15	32	86½
Thos. Plant, do	Wisconsin No. 7.	18½	4½	19½	15	28½	86
J. C. Dixon, Essex	Essex Gold. Dent	17	4½	19	11	34	85½
A. W. Cohoe, S. Woodslee	White Cap Yellow Dent	17	4½	19	15	29½	85
J. Granger, do	Wisconsin No. 7.	17½	4½	18½	12	32	84½
Geo. A. Myles, do	Bailey	17½	4½	18	13	31	84
Jas. Headrick, do	do	17	4½	20	15	27	83½
Patrick Murphy, do	Reed's Yel. Dent	18	4½	13	14½	33	83
Jno. Wilcox, do	Wisconsin No. 7.	18½	5	12	13	34	82½
E. Durn, do	do .	18½	4½	13	14	32½	82½
T. Sheehan, Ruscomb	do .	18	5	15	15	29	82
Jno. Mitchell, S. Woodslee	Early Cuban ...	18½	4½	18½	13	26	80½
N. Boldin, Woodslee	White Cap Yellow Dent	17	4½	15	13	30	79½
Harry Hayes, S. Woodslee	Early Cuban	16½	4½	13	13½	31	78½
Arthur Michel, do	White Cap Yellow Dent	17	4½	17	16	36	78½
Jno. Byrne, Byrnedale	do .	15	5	18	15	25½	78½
Albert Byrne, do	do .	17½	4½	12	14	29	77
Frank Fuerth, Woodslee	Early Cuban ...	17	4½	11	15	28½	76
Jas. McCloskey, Essex	White Cap Yellow Dent	15½	5	16	15	24	75½
J. Byrne, Woodslee	Wisconsin No. 7.	15	4½	13	13½	28	74
Ed. McPharlin, Essex	do	16	5	9	14	30	74
A. J. Brooker, S. Woodslee ...	White Cap Yellow Dent	15	5	10	15	27	72
Chas. Byrne, Byrnedale	do	12½	4½	12	12	32	63
Thos. Lafee, Belle River	Gold Seed	17	4½	.....	12	28	61½

*General appearance.—Considering uniformity and stand of crop, type of plant, and vigour of growth, and method of planting.

†Yield of fodder and grain.—Considering quality and quantity of fodder, type as regards size, shape and yield of ears, uniformity of ear, size and depth of kernels, variety considered.

NOTE.—The figures in parenthesis at the top of the table are the maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	†Yield of fodder and grain.	Totals of scores.
ESSEX.—*Continued.*		(20)	(5)	(20)	(15)	(40)	(100)
WINDSOR AGR. SOCIETY.							
Judge—S. M. Pearce, Iona.							
Patruce Marantelle, Windsor	White Cap Yellow Dent	18	4½	19	13	29	83½
Jno. A. O'Neil, N. Pelton	Wisconsin No. 7.	17½	4½	16	14	31	83
Nicholas Farough, Maidstone	Reed's Yel. Dent	17	4½	18	13½	29	82
Percy Clapp, Tecumseh	Wisconsin No. 7.	17½	4½	12	15	32	81
Jos. Shuttleworth, N. Pelton	White Cap Yellow Dent	17½	4½	17	10	30	79
Thos. Jobin, Maidstone	do	18	4½	10	14	32	78½
Arthur Dumouchelle, Windsor	do	17	4½	13	14½	29	78
Harold C. Robinson, N. Pelton	do	17	4½	18	14	24	77½
N. Lassaline, Jackson's Corners	do	17½	4½	15	12	28	77
Albert Dumouchelle, do	Wisconsin No. 7.	17	4½	16	13	26	76½
Fred. Frith, Oldcastle	do	16	4½	14	15	25½	75
Malcolm Clapp, Tecumseh	do	16½	4½	10	12	30	73
David Ure, N. Pelton	do	16	4	12	12	29	73
D. H. Bedford, Windsor	White Cap Yellow Dent	17½	4½	14	10	26	72
Alex. St. Louis, Walkerville	North Star	15½	5	5	13	23	61½
KENT.							
HARWICH AGR. SOCIETY.							
Judge—J. H. Coatsworth, Ruthven.							
Campbell Bros., Ridley, R.R.	Longfellow	18	4½	19	14	35	90½
Peter Sturk, Guilds	do	18	4½	16	14	37	89½
J. B. Clark, Blenheim	North Dakota	18	4½	16	14	35	87½
Jno. Neville, Guilds	Longfellow	16½	4½	18	14	34	87¼
Jas. McPherson, Cedar Springs	White Cap	17	4½	19½	14	32	87
C. Ryckman, Blenheim	do	18	4½	19	13	32	86½
Geo. Attridge, Guilds	Longfellow	18	4½	14¾	14	35	86¼
Thos. Pegg, Blenheim	White Cap	18	4½	15	13½	35	86
Jno. Clayton, do	do	18	4¾	17	12	34	85¾
J. D. McPherson, do	do	18	4½	15	14	34	85½
A. D. Forbes, do	do	16	4½	18	13½	33	85
A. E. Tole, do	North Dakota	17	4½	15	14½	34	85
A. W. Wiley, do	White Cap	17½	4½	15	13	34	84
Wm. Knight, do	Compton's Early.	17½	4½	18	8	36	84
W. W. Griffiths, Guilds	North Dakota	15½	4½	16	14	32	82
E. G. Warwick, do	do	15½	4½	15	14½	32	81½
W. J. Ryckman, do	Longfellow	15½	4½	19	13	29	81
Geo. R. Flood, do	White Cap	16½	4½	16	13	30	80
W. Snow, do	King Philip	14	4	14	13	32	77

*General appearance.—Considering uniformity and stand of crop, type of plant, and vigour of growth, and method of planting.

†Yield of fodder and grain.—Considering quality and quantity of fodder, type as regards size, shape and yield of ears, uniformity of ear, size and depth of kernels, variety considered.

NOTE.—The figures in parenthesis at the top of the table are the maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	†Yield of fodder and grain.	Totals of scores.
KENT.—*Continued.*		(20)	(5)	(20)	(15)	(40)	(100)
OBFORD AGR. SOCIETY.							
Judge—R. Schuyler, Paris.							
Robt. A. Newman, Highgate, R. R. 2	White Cap Dent.	18½	4⅞	19½	15	35⅛	93
Jno. A. Bishop, Palmyra	do	16¾	4⅞	18½	15	34⅝	89¾
W. C. Sifton & Sons, do	do	18¼	4¾	16	15	34½	88½
Jos. Hornal, Muirkirk	do	17¼	4¾	18½	15	32	87½
Robt. Hornal, do	Yellow Flint	17⅛	4½	19½	15	31	87⅛
Ernest Gosnell, Highgate, R. R., 2	White Cap Dent.	16¾	4¾	18	15	32	86½
Clayton Gosnell, Highgate	do	16⅝	4¾	17	15	33	86⅜
Jno. Driver, Palmyra	do	15⅞	4¾	18½	15	32	86⅛
Angus Thomson, Duart	do	16¾	4⅞	18½	15	30⅞	86
Hugh McAlpine, Thamesville .. No. 3	do	18⅛	4¾	16	15	32	85⅞
Geo. Schweitzer, Highgate, R.R. 1	8-rowed Y. Flint.	16¾	4⅞	16	15	32½	85½
J. B. McDonald, Muirkirk	White Cap Dent.	16⅝	4¾	18¾	15	31	85⅛
Frank Stone, Highgate	do	16¾	4½	17	15	31¾	85
Geo. R. Newman, Muirkirk	do	18	4¾	15	14	33	84¾
M. Littlejohn, Muirkirk, R.R. 2	do	16½	4½	16	15	32⅝	84⅝
Jas. Gillies, Highgate, R.R. 2	do	16⅜	4¾	16½	15	31½	84⅛
Clarke Bros., do	Flint Y. Glaze	15¾	4½	18½	15	30¼	84
J. Wootten, Thamesville	White Cap Dent.	16¾	4⅞	16	15	30⅞	83½
Wm. Blue, Palmyra	do	15⅝	4⅞	18½	15	29	83¼
Fred Scott, Highgate, R.R. 1.	do	16	4⅞	15	14	30¼	80⅛
J. W. Reycraft, Muirkirk	do	15¼	4¾	15½	15	29½	80
Wm. Tinline, Thamesville, R. R. 3	do	13½	4⅞	17	15	29	79⅜
E. W. McTavish, Palmyra	8-rowed Y. Flint.	14¼	4⅞	14¾	15	29½	78⅜
Alex. McArthur, Thamesville	White Cap Flint	14⅜	4⅞	15	15	27	76¼
RALEIGH & TILBURY AGR. SOC'Y.							
Judge—J. H. Coatsworth. Ruthven.							
Harold Johnston, Merlin	White Cap	18	4½	19	14	34	89½
Robt. Fletcher, Valetta	Pride of the Wst	18	4½	18	14	34	88½
F. H. Middleton, Merlin	Early Leaming	18	4	16	14	36	88
W. H. Mansell, Fletcher	Wisconsin No. 7.	17	4	16	14½	36	87½
Wm. S. Mills, Tilbury	do	17½	4½	16	14	35	87
D. Fletcher, Fletcher	do	17½	4½	16	14½	34	86½
Jas. McGregor, Tilbury	do	16½	4½	16	14½	36½	86
Wm. Blake, Glenwood	White Cap	15½	4½	19	14	32	85
Nelson Guttridge, Merlin	do	17½	4½	18	10	33½	83½

*General appearance.—Considering uniformity and stand of crop, type of plant, and vigour of growth, and method of planting.

†Yield of fodder and grain.—Considering quality and quantity of fodder, type as regards size, shape and yield of ears, uniformity of ear, size and depth of kernels, variety considered.

NOTE.—The figures in parenthesis at the top of the table are the maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	†Yield of fodder and grain.	Totals of scores.
KENT.—*Continued.*		(20)	(5)	(20)	(15)	(40)	(100)
RALEIGH AND TILBURY AGR. SOCIETY.—*Continued.*							
J. A. Fletcher, Valetta	Wisconsin No. 7.	17½	4	13½	14	34	83
Chas. Skipper, Fletcher	do	16½	4½	16	13	32	82
Wm. Guttridge, Merlin	Yellow Dent	16½	4½	17	14	28	80
Geo. Foxton, do	White Cap	16	4½	13	14	32	79½
Jas. Wellwood, do	Wisconsin No. 7.	17	4	12	13	32	78
Jno. McGregor, Tilbury	do	14½	4½	13	14	31	77
F. H. Gilhooly, Merlin	do	15½	4½	14	10	32	76
WEST KENT AGR. SOCIETY. *Judge—W. H. J. Tisdale. Brampton.*							
W. G. Stark & Son, Chatham	Wisconsin No. 7.	19	4½	18¾	14½	36½	93¼
R. J. Wilson, Charing Cross	do	18¾	4½	17½	14½	37	92¼
Harold English, Chatham	Leaming	18¼	4	18¼	14	36½	91
Geo. Apthorp, Charing Cross	do	18¾	4¼	19½	14	33½	90
R. R. Huff, Chatham,	White Cap	19	4¼	19	12¾	34¼	89¼
Jno. Sales, Charing Cross	Leaming	17¾	4½	19	14	33	88¼
W. J. Fleming, Chatham	White Cap	18¼	4¼	15	14	34½	86
LAMBTON. FLORENCE AGR. SOCIETY. *Judge—A. MacVannel, Picton.*							
B. W. Fancher, Florence	Leaming	16	4	16	14	33	83
R. T. Moorhouse, Cairo	Yellow Dent	16½	4	16	12	32	80½
D. Buchanan, Florence	Wisconsin No. 7.	14½	4	15	14	32	79½
Jno. Crydernan, Thamesville	White Cap Yellow Dent	17	3	15	12	32	79
J. Butler, Croton, R.R., 2	White Cap Dent.	14	4	15	13	32	78
Robt. Currie, Florence	White Cap Yellow Dent	14½	4	14	14	30	76½
Wm. Beatty, do	do	15	4	14	12	31	76
Harry Ralph, do	do	15	4	15	10	29	73
David Brown, Oakdale	do	12½	4	12	13	29	70½
B. Harris, Thamesville	Yellow Dent	12½	4	15	12	26	69½
Robt. George, Florence	White Cap Dent.	13½	4	11	14	27	69
Jno. Vance, do	White Cap Yellow Dent	12½	4	13	13	26	68½
Wm. Morningstar, do	8-rowed Yellow	13	4	13	12	26	68

*General appearance.—Considering uniformity and stand of crop, type of plant, and vigour of growth, and method of planting.

†Yield of fodder and grain.—Considering quality and quantity of fodder, type as regards size, shape and yield of ears, uniformity of ear, size and depth of kernels—variety considered.

NOTE.—The figures in parenthesis at the top of the table are the maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	†Yield of fodder and grain.	Totals of scores.
LAMBTON.—*Continued.*		(20)	(5)	(20)	(15)	(40)	(100)
FLORENCE AGR. SOCIETY.—*Con.*							
Clifford Pierce, Dante	White Cap Yellow Dent	11½	4	15	12	25	67½
Woods Bros., Langband	do	15	4	10	11	26	66
Lee Pelky, Croton, R.R., 1	White Cap Dent.	12½	4	12	12	24	64½
SOMBRA AGR. SOCIETY.							
Judge—A. P. MacVannel, Picton.							
Robt. Payne, Whitebread	Yellow Dent	16½	4½	17	14	34	86
Peter Grant, Beckford	White Cap Yellow Dent	15½	4	17	13½	33	83
Jas. H. Arnold, Brigden		16	4	16	13	33	82
Jas. A. Murphy, Whitebread	8-rowed Y. Dent.	14	4	16	13	33	80
J. C. McMillan, do	Leaming	14	4	15	14	30	77
Peter Stenton, do	Yellow Dent	14½	4	13	13	31	75½
T. H. Marr, Brigden	Strawberry Dent.	12	4	16	14	29	75
Rufus Stenton, Whitebread	Yellow Dent	14½	4	13	13	30	74½
Jno. McRae, do	do	13½	4	12	13	31	73½
A. J. Notley, Wilkesport	White Cap Yellow Dent	12½	4	16	13	27	72½
S. Selmore, do	White Cap Dent.	12	4	14	12	30	72
J. A. Wadsworth, Whitebread	White Cap	14	4	12	13	26½	69½
J. W. Sempson, Port Lambton	Flint	14	4	14	9	27½	68½
J. F. Roebuck, Becher	Mixed Dent	13	4	12	9	30	68
L. C. Pretty, Wilkesport	do	12	4	15	8	26	65
MIDDLESEX							
DORCHESTER AGR. SOCIETY.							
Judge—R. H. Abraham, Chatham							
Geo. Paterson, Dorchester	Leaming	18	4½	19½	14	37½	93½
W. W. Scott, Mossley	White Cap Yellow Dent	17	4½	19	14½	36½	91½
T. J. S. Cornish, do	Leaming	17	4	19½	14½	35½	90½
Jas. Marr, Dorchester	do	17	4½	18	14	36½	90
Jno. E. Parker, Dorchester, R. R., 1	Parker's Improv'd	16	4	19½	14	36	89½
P. Cornish, Mossley	White Cap	16½	4½	18	14½	35½	89
Jos. Woods, Dorchester	do	16½	3½	18½	13½	36	88
Sam. Demary, Mossley	Butler's Dent	17	4	18	14	34	87
Jno. H. Longfield, Crampton	White Cap	15½	4½	17	13	34½	84½

*General appearance.—Considering uniformity and stand of crop, type of plant, and vigour of growth, and method of planting.

†Yield of fodder and grain.—Considering quality and quantity of fodder, type as regards size, shape and yield of ears, uniformity of ear, size and depth of kernels, variety considered.

NOTE.—The figures in parenthesis at the top of the table are the maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation	Purity of variety.	†Yield of fodder and grain.	Totals of scores.
MIDDLESEX.—*Continued.*		(20)	(5)	(20)	(15)	(40)	(100)
DORCHESTER AGR. SOCIETY.—*Con.*							
G. T. Paterson, Dorchester, R. R., 1.	Leaming	16	4½	16	13½	34	84
Sam. Woods, Dorchester	Wisconsin No. 7.	15	3½	17	13	34	82½
F. L. Atkins, Putnam	White Cap	15	4	17	12	34	82
R. Banks, Dorchester	North Dakota	15	4½	14	13	33	79½
F. T. Irwin, London, R.R., No. 8	White Cap	14	4	13	12½	33½	77
R. G. Boxall, Putnam	do	14	4	16	11	31	76
J. N. Hawe, Crampton	do	15	4	10	13	33	75
Jos. Johnston, Mossley	White Flint	14½	4	12	12	32	74½
David Calvert, Dorchester	Longfellow and Dent	14	4½	13	12	29	72½
H. Mathews, Putnam	White Cap	15	2	12	11	28	68
NORFOLK.							
COURTLAND AGR. SOCIETY.							
Judge—Jas. Boyd, Cedar Grove.							
C. W. Graydon, Courtland	White Cap	16	3	18	14	36	87
J. C. Byerlay, do	do	15	3	18	14	36½	86½
W. A. Butler, do	Yellow Dent	16	3	18	12	37	86
Geo. B. Ryan, do	Wisconsin No. 7.	16	3	18	13	35	85
J. P. Nunn, Tillsonburg	Leaming	16	3	18	13	34	84
Hy. Fisher, Mabee	8-rowed Yellow	14	3	18	13	35	83
Jno. T. Simmons, Courtland	White Cap	15	2	17	14	34½	82½
Albert Cowan, do	White Cap and Leaming	16	3	16	12	35	82
J. McDonald & Son, Tillsonburg	8-rowed Yellow & White Cap	14	3	18	12	34½	81½
Martin Sitzer, Courtland	White Cap	16	3	17	13	32	81
W. P. Ronson, do	Factory Sweet	14	3	16	13	34	80
Freeman Cousins, do	Leaming	14	4	18	13	30	79
Hy. Wallace, S. Middleton	Smut Nose	15	3	16	12	32	78
Otto Ronson, Courtland	White Cap	13	4	16	13	31	77
Geo. Fisher, do	Blue Blaze	12	4	18	12	30	76
Jno. McQueen, do	Courtland	13	3	15	12	32½	75½
W. N. Burnett, do	Compton's Early	12	3	14	13	33	75
J. W. Cohoe, do	White Cap and Leaming	11	3	16	13	31½	74½
H. Reigh, do	Leaming	13	3	16	12	30	74
Geo. E. Eitel, Rhineland	Yellow Flint	11	3	15	11	33	73
B. C. Buchner, Courtland	White Cap and Leaming	11	4	15	10	31	71
J. W. Clark, Mabee	Smut Nose, Mixed	11	3	16	17	30	70

*General appearance.—Considering uniformity and stand of crop, type of plant and vigor of growth, and method of planting.

†Yield of Fodder and Grain.—Considering quality and quantity of fodder, type as regards size, shape and yield of ears, uniformity of ear, size and depth of kernels—variety considered.

NOTE.—The figures in parenthesis at the top of the table are the maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	†Yield of fodder and grain.	Totals of scores.
		(20)	(5)	(20)	(15)	(40)	(100)
NORTH WALSINGHAM AGR SOC'Y.							
Judge—R. H. Abraham, Chatham							
Nicholas Massecar, Wyecombe	Wisconsin No. 7.	18	4½	18	14½	37	92
Jno. Murphy, Silver Hill	Compton's Early.	17	4½	19	14	36	90½
Thos. Hanna, Langton	Smut Nose	16½	4½	18	14	34½	87½
Rich. Pick, Wyecombe	Evergreen Sweet.	17½	4½	16	13½	35	86½
Jno. McDonald, do	Smut Nose, Flint	17	4	16	12	36	85
Stanley McKimm, Lynedoch	Smut Nose	17½	4½	17	12	33½	84½
Wm. Sinden, Langton	White Cap	17	4	16	14	33	84
Hewitt Bridgeman, Carholme	8-rowed Yellow	15½	4½	19	10½	34	83½
Jas. Hagan, Langton	Ninety-day	14½	4½	18	12	34	83
C. H. Moore, do	Smut Nose	14½	4½	16	13½	33½	82
J. E. Kelly, Glen Meyer	do	16	4½	17	12	32	81½
David Langfield, Walsingham C.	do	15	4½	16	12	33	80½
Wm. Willet, Glen Meyer	do	15	4	16	12	33	80
Wm. McIntosh, Carholme		15	4	16¼	12½	32	79¾
Albert Curtis, Wyecombe	Smut Nose	16½	4	14	12	33	79½
Wm. Hill, Carholme	Ohio Dent	16	4¼	19	10	30	79¼
E. Holtby, Wyecombe	Sweet	17	4	10	13½	34	78½
C. H. Hutchinson, Marston	Ohio Early	11	4½	17	12	33	77½
F. E. Doan, Wyecombe	Flint	15	4¼	18	10	30	77¼
G. B. Robinson, Langton	Blue Blaze	15	4	14	10	34	77
Howard Curtis, Glen Meyer	White Cap	14½	4½	16	12	29	76
Jno. Jamieson, Langton	Ninety Day	16½	4	13	12	30	75½
Wm. Balcomb, do	King Philip	13½	4½	16	12	29	75
Hy. Turner, Carholme	8-rowed Yellow	14	4½	16	12	28	74½
Frank Jamieson, Langton	Ninety Day	15	4	10	11	31	71
Wm. Thorn, Lynedoch	Dent	16½	4	10	13	27	70½
Owen Boyer, Langton	Ohio Dent	12	4¼	12	12	30	70¼
Eli Davies, do	Ninety Day	15	4	12	10	28	69
G. W. Robinson, do	Smut Nose	11	4½	12	10	22	59½
OXFORD.							
NORTH NORWICH AGR. SOCIETY.							
Judge—Walter Baldock, Mt. Charles.							
Jas. Rettie, Burgessville	Wisconsin No. 7.	18	4	19	14	37½	92½
Edwin Butler, Norwich	White Cap	17	4	19	14	37½	91½
Percy Robinson, Burgessville	do	16½	4	18	14	37½	90
W. J. Tapley, Norwich	do	16¾	4½	18	13½	36¼	89

*General appearance.—Considering uniformity and stand of crop, type of plant, and vigor of growth, and method of planting.

†Yield of fodder and grain.—Considering quality and quantity of fodder, type as regards size, shape and yield of ears, uniformity of ear, size and depth of kernels, variety considered.

NOTE.—The figures in parenthesis at the top of the table are the maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	†Yield of fodder and grain.	Totals of scores.
OXFORD.—*Continued.*		(20)	(5)	(20)	(15)	(40)	(100)
NORTH NORWICH AGR. SOCIETY. —*Continued.*							
Geo. A. Stone, Ranelagh	Imp. Leaming	16¼	4¼	18	13¼	36¼	88
C. N. Hillicker, Burgessville	White Cap	16	4	18	13½	36½	87½
A. E. Cornwell, Norwich	do	16	4	18	13	36	87
F. C. Wyckoff, Newark	Wisconsin No. 7.	16	4	17½	13	36	86½
E. E. Hammer, Norwich	White Cap	16	4	17½	13	36	86½
A. W. D. Long, do	Wisconsin Dent	16	4	17½	13	35½	86
Ralph Moore, do		16	4	17	13	36	86
D. B. Cohoe, Burgessville	White Cap	15¾	4	17	13	36	85¾
W. D. Reid, do	do	16	4	16½	13	36	85½
T. L. Dunkin, Norwich	do	15¾	4	16½	13	36	85¼
M. E. Hopkins, Newark		16	4	16	13	36	85
A. T. Walker, Burgessville		16	4	16	13	36	85
A. E. Hulet, Norwich	White Cap	16	4	17½	13	34	84½
Cohoe Bros., Burgessville	Wisconsin No. 7.	16	4	17½	13	34	84½
SOUTH NORWICH AGR. SOCIETY. *Judge—Walter Baldock, Mt. Charles.*							
Geo. A. Bean, Otterville	Wisconsin No. 7.	18	4	19½	14	37½	93
Wm. Steinhoff, Hussey	do	18	4	19	14	37½	92½
A. E. Snider, Otterville	do	17	4	19	14	37½	91½
A. A. Graham, do	White Cap	16¾	4	19¼	14	37	91
Jas. Moore, do	do	16¾	4	19	14	37	90¾
Jas. Johnson, do	Wisconsin	16	4	19	14	37	90
A. L. Oatman, Cornell	White Cap	16	4	18½	14	37	89½
Arthur Pearce, do	Wisconsin No. 7.	16	4	18¼	14	37	89¼
G. W. Parson, Otterville	do	16	4	18	14	37	89
W. E. Russell, Tillsonburg	White Cap	16	4	18	14	36½	88½
R. M. Holmes, Otterville	Wisconsin No. 7.	16	4	18	14	36½	88½
Gordon McMullen, do	Smut Nose	16	4	18	14	36	88
Jas. Jackson, Norwich	White Cap	16	4	17½	14	36	87½
R. H. Kent, Otterville	Wisconsin No. 7.	16	4	17½	14	35½	87
R. R. Hussey, Hussey	do	16	4	17	14	35½	86½
Jas. McNally, Otterville	White Cap	16	4	17	13½	35	85½
M. H. Haley, Springford	Wisconsin No. 7.	15	4	16½	14	36	85½
C. H. Pennington, Hawtrey	Wisconsin No. 7.	16	4	17	13½	35	85½
H. C. Jeffrey, do	do	16	4	16½	13½	35	85
F. W. Vardon, Springford	White Cap	16	4	16	13½	35	84½
J. J. McNally, Otterville	do	16	4	16	13½	35	84½
Jno. Cornell, Hawtrey	do	16	4	16	13	35½	84½
Thos. Pearce, Cornell	do	16	4	16	13	35	84
L. D. Hussey, Otterville	do	16	4	16	13	34	83

*General appearance.—Considering uniformity and stand of crop, type of plant, and vigor of growth, and method of planting.

†Yield of fodder and grain.—Considering quality and quantity of fodder, type as regards size, shape and yield of ears, uniformity of ear, size and depth of kernels, variety considered.

NOTE.—The figures in parenthesis at the top of the table are the maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

CORN.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from smut and insects.	Thoroughness of cultivation.	Purity of variety.	†Yield of fodder and grain.	Totals of scores
WENTWORTH.		(20)	(5)	(20)	(15)	(40)	(100)
WATERDOWN AGR. SOCIETY.							
Judge—J. G. McPharlin, Essex.							
Wm. Attridge, Waterdown	White Cap	18⅝	3	19	12	33¼	86
B. Grundy, Mountsburg	Leaming W. Cap.	17¾	4¾	19¼	12	31	84¾
Jno. Robinson, Harper's Cors. .	do .	17¼	4¾	18½	12	31¼	83¾
Geo. B. Stock, Waterdown	Leaming	18¼	4	17	11½	32	82¾
Blake Binkley, Flamboro Centre	Leaming W. Cap.	17¼	4	17	12	32	82¼
S. Gallagher, Waterdown	do .	18	4¼	16	12	31¾	82
Frank Attridge, Flamboro Cen.	do .	17	3	17	12	31¾	80¾
Rich. Attridge, Waterdown	White Cap	17⅜	4	17	11	30¾	80½
R. Langton, do	Leaming W. Cap.	16	3½	16¾	12	30¼	78½
Chas. Everitt, do	Leaming	15½	4	16½	12	30	78
Chas. Tuck, do	do	15⅜	4½	16¾	12	28½	77½
F. Baker, do	White Cap	16	4½	17	11¼	28¼	76¾
F. Johnston, do	Southern Sweet .	15¼	3½	15½	12	29¼	75½

*General appearance.—Considering uniformity and stand of crop, type of plant, and vigor of growth, and method of planting.

†Yield of fodder and grain.—Considering quality and quantity of fodder, type as regards size, shape and yield of ears, uniformity of ear, size and depth of kernels, variety considered.

NOTE.—The figures in parenthesis at the top of the table are the maximum possible scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

PEAS.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from weeds.	Freedom from disease and insects as mildew, blight, weevil, worms, etc.	Purity of variety.	†Yield and quality of grain.	Totals of scores.
BRUCE		(20)	(15)	(20)	(15)	(30)	(100)
EASTNOR AGR. SOCIETY.							
Judge— C. W. Buchanan, Dutton.							
Ronald Cameron, Spry	Golden Vine	16	13½	18	13	25	85½
W. G. Bray, do	do	16½	13½	18	12	24½	84½
A. Mielhausen, Lion's Head	do	15¾	13½	18	12	24¼	83½
Jas. Spiers, do	do	15¾	13	18	11	24½	82¼
Wm. Bray, Jr., do	do	15½	12	18	13	23½	82
T. J. Bridge, do	Little English	15¼	11½	18	13	23½	81¼
N. S. Landon, do	do	15¾	12	18	12	22	79¾
Jos. Bray, do	Golden Vine	14¾	12	18	12	22¾	79½
A. C. Bridge, do	Little English	15	10½	17½	11	23	77
Thos. Bartman, do	Golden Vine	13¾	11	18	12	22	76¾
Alonza Slocum, Spry	do	14¾	10	17	12	20½	74¼
J. H. Cook, Lion's Head	Little English	13	11	17	11	20½	72½
D. Campbell, Barrow Bay	Golden Vine	15¼	10	16½	10	20½	72¼
Wm. Amas, Lion's Head	....	13½	10	16½	11	21	72
W. T. Hewton, Barrow Bay	Golden Vine	13	10	17	12	19	71
D. S. McLay, Stokes Bay	Little English	12½	12	17	10	19	70½
Philip Forbes, Brinkman's Cors.	....	14	9	16	11	20¼	70¼

*General appearance.—Considering stand of crop, type of plant, vigour and uniformity of growth, and method of seeding.

†Yield and quality of grain.—Considering number and size of pods per plant, uniformity of maturity and proportion of grain to straw.

NOTE.—The figures in parenthesis at the top of the table are the maximum scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

RED CLOVER

Competitors in Order of Merit.	Apparent yield and quality of crops as indicated by: Height of crop.	Closeness of plants.	Vigor and healthy appearance of plants.	Evenness of crop over field.	Number of well-filled heads per plant containing plump seed of good color.	Freedom from noxious weeds mentioned in Seed Control Act.	Freedom from other weeds, grasses, etc.	Favorable conditions for harvesting the crop, absence of loose stones, etc.	Totals of scores.
KENORA	(15)	(15)	(5)	(10)	(15)	(25)	(10)	(5)	(100)
DRYDEN AGR. SOCIETY.									
Judge—Chas. A. Galbraith, New Liskeard.									
A. E. Browning, Oxdrift	13	14½	5	9	14	25	8	4½	93
Jno. Hutchison	14	14	5	8	12	25	8	5	91
W. Robinson, Oxdrift	14	13	5	8	13	25	7	4	89
Alex. Skene, Sr., Dryden	13	13½	5	9	14	21	7	4½	87
Jno. Adams, Oxdrift	13	13	4	8	13	25	6	3	85
E. W. Wice, Dryden	11	12	4	7	12	25	7	4	82
Ben. Brignall, Oxdrift	13	13	5	7	13	18	6	4	79
T. H. Lewis, do	13	12	4	7	13	17	8	3½	77½
Paul Kennedy, Dryden	14	12	4	8	13	12	7	4	74
W. H. Martin, do	12	12	4½	7	13	15	6	3½	73
W. J. Martin, do	11	9	4	6	13	16	5	4½	68½
A. R. Hutchison, do	14	8	5	6	12	12	5	3	65
F. T. Brignall, do	13	12	4	4	8	15	6	2	64
J. W. Anderson, Oxdrift	11	8	3	5	12	16	5	3	63

NOTE.—The figures in parenthesis at the top of the table are the maximum possible scores

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

POTATOES.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	†Apparent yield.	Totals of scores.
ALGOMA		(15)	(17)	(20)	(10)	(38)	(100)
CENTRAL ALGOMA AGR. SOCIETY.							
Judge—J. N. Ponton, Sudbury.							
Chas. A. Somes, Goulais River	Moneymaker	14	16½	18	10	34	92½
Thos. Avery, Korah	Rex Hebron	13½	15	18½	10	35	92
G. H. Farmer, Steelton	Davies Warrior .	14½	16	19	9½	32½	91½
Hy. Knight, Sault Ste. Marie ..	Carmen No. 1 ..	13½	15½	19	10	31	89
Mrs. E. Marshall, do ..	do ..	12½	16	17	10	24	79½
J. A. Moore, Steelton	Beauty of Hebron	10	13	14	9½	26	72½
W. E. Dickison, S'lt. Ste. Marie	Sir Walter Raleigh	10	15	13	9	24	71
M. H. Penno, Steelton	Beauty of Hebron	9	15	12	5	27½	68½
Geo. Avery, Korah	Green Mountain .	12	13	12	10	21	68
C. W. Egglesfield, S. S. Marie.	Carmen No. 1 ..	10	12	13	9	23	67
C. M. Nixon, do .	Rex Hebron	11½	16	12	6	19	64½
J. H. Hugill, do .	N. York Beauty.	9½	5	14	9	24	61½
R. S. Walker, do .	Empire State ...	9	14	13	7	16	59
ST. JOSEPH ISLAND AGR. SOCIETY							
Judge— Hy. Knight, Jr., Sault Ste. Marie							
Thos. White, Richard's Landing	Dalmeny	13	15	19	10	35½	92½
Geo. Tweedle, do	Green Mountain.	13	15	18	10	35½	91½
Jas. Cruickshank, do	Gold Coin	13	16	19	10	31	89
Walter Ley, do	Dalmeny	13	16	18	10	31½	88½
Chas. Young, do	Irish Cobbler ...	13	16	16	8	33½	86½
Jas. Warmington, Harmony ...	White Elephant .	11½	15	17½	10	32	86
Ernest Burnside, Richard's Ldg.	Beauty of Hebron	13½	15	18	9	30	85½
Jno. Brown, Carterton	Green Mountain.	12	15	17	10	27½	81½
Jno. A. Cheer, Richard's Ldg. .	do .	12	15	16	10	28	81
Wm. Brayley, do ..	do .	11	15	15	9	29	79
A. W. Ross, do ..	Irish Cobbler ...	9	15	16	10	28	78
Raymond Rains, do ..	.....	11	15	15	8	28	77
Jos. Bishop, do ..	Irish Cobbler ...	11½	15	14	8	26½	75
Geo. Smedley, do ..	Green Mountain.	11	15	12	8	27	73
Jno. Fife, do ..	.....	10½	15	10	5	24	64½
THESSALON AGR. SOCIETY.							
Judge—H. Knight, Jr., Sault Ste. Marie.							
L. Campbell, Livingstone Creek	Green Mountain.	14	16	19	10	34½	93½
W. T. Brandon, Thessalon	Carmen No. 1 ..	14	15½	18	10	35	92½

*General appearance.—Considering method of planting, stand of crop, and vigour of growth.

†Apparent yield.—Considering weight of marketable potatoes per square yard, quality, smoothness and uniformity of shape, state and uniformity of maturity, and freedom from sunburn.

NOTE.—The figures in parenthesis at the top of the table are the maximum scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

POTATOES.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	†Apparent yield.	Totals of scores.
ALGOMA.—*Continued.*		(15)	(17)	(20)	(10)	(38)	(100)
THESSALON AGR. SOCIETY.—*Con.*							
W. Weir, Livingstone Creek ..	Green Mountain.	13	16½	19	10	33½	92
Thos. Cordukes, Sowerby	do .	13½	16	18½	10	32½	90½
Thos. Wright, Nesterville	Maggie Murphy .	13½	16	18½	10	32	90
A. I. Hopkins, Livingstone Crk.	Green Mountain.	13½	16	18½	10	30½	88½
H. Hagen, Sowerby	Beauty of Hebron	13½	16	17½	10	31	88
Isaac Leach, Livingstone Creek	Early Fortune ..	12½	16	18½	9	31½	87½
D. McLennan, Thessalon	Rose of the North	12½	16	18	9	31	86½
Angus McKiggan, Livingstone Creek	Beauty of Hebron	12	16	17½	10	30	85½
Thos. Sproule, Dayton	Malcolm	13	16	17	9	30	85
C. F. Milligan, Thessalon	Irish Cobbler ...	11	16	15	10	29	81
BRUCE							
WIARTON AGR. SOCIETY.							
Judge—J. Laughland, Collingwood.							
Chas. W. Loney, Wiarton	Empire State ...	14	15	16½	10	28	83½
Thos. Baldwin, do	White Elephant .	13½	14	14	10	29	80½
Wm. Lembke, Oxenden	Dempsey's Seedling	12½	14	16	10	27	79½
H. F. Loney, do	Amer. Wonder ..	11½	14	14	10	29	78½
Geo. H. Stacey, Wiarton	do ..	12½	14	16	10	25½	78
W. W. Sims, Oxenden	White Elephant	11½	13½	16½	10	26	77½
Geo. W. Loney, do	Empire State ...	12½	13	15	9	27	76½
Wm. J. Root, Wiarton	White Elephant .	11½	14	16	10	24½	76
Albert Lembke, Oxenden	Dempsey's Seedling	11	14	15	10	25	75
Evan Stacey, Wiarton	Amer. Wonder ..	11	14	15	10	22	72
HALTON							
NELSON AND BURLINGTON AGR. SOCIETY.							
Judge—G. Scrsmith, Stone Quarry.							
R. H. Wilson, Burlington	Carman	13	16	16	8	35	88
M. C. Smith, do	do	12	16	18	9	31	86
W. L. Smith, do	Delaware	11	15	15½	10	34	85½

*General appearance.—Considering method of planting, stand of crop, and vigour of growth.

†Apparent yield.—Considering weight of marketable potatoes per square yard, quality, smoothness and uniformity of shape, state and uniformity of maturity, and freedom from sunburn.

NOTE.—The figures in parenthesis at the top of the table are the maximum scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

POTATOES.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	†Apparent yield.	Totals of scores.
HALTON.—*Continued.*		(15)	(17)	(20)	(10)	(38)	(100)
NELSON AND BURLINGTON AGR. SOCIETY.—*Continued.*							
F. L. Walker, Burlington	Carman	13	12	19	7¼	34	85¼
R. Gray, Freeman	Bruce's Beauty	13	15	19	9	28	84
J. Hislop, Tansley	Green Mountain	10½	13	19	10	30½	83
Colin Smith, Burlington	World's Fair	12	16	16	9	29½	82½
F. E. Spence, Freeman, R.R., 1	Dooley	14	16	20	9	23	82
J. T. Watson & Son, do	....	9	15	18	9	30	81
Leslie Kerns, Freeman	Carman	11	16	10	10	32	79
MIDDLESEX							
CARADOC AGR. SOCIETY.							
Judge—H. A. Dorrance, Orangeville.							
Dougald Campbell, Mt. Brydges	Dooley	13	13	18	9	31½	84½
A. McNeill, Strathroy	do	13	12	17	9	30½	81½
R. Sabine, Mt. Brydges, R.R., 2	do	13½	11	18	9	29	80½
A. Lawson & Sons, Mt. Brydges	do	13	12	16½	9	28½	79
D. Limon, do	do	12	12½	16	8½	28	77
Jno. Hutton, do	do	11½	13½	14½	9	27	75½
Jno. Walker, do	do	11	14	13	8½	26½	73
R. T. Runnals, do	do	11	14	14	9	24	72
E. Steer, do	Planet	11½	14	13	8½	24½	71½
G. Blair Mt. Brydges, R.R., 2	Dooley	11	14	12	8	24	69
A. Limon, Mt. Brydges	White Mammoth.	10½	12½	11	9	25	68
J. D. Luce, do	Dooley	10½	13	12	8	24	67½
Jno. Watson, do	do	9½	13	12	8	23½	66
C. M. Trott, do	Carmen	8	12	14	9	21	64
MUSKOKA							
GRAVENHURST & MUSKOKA AGR. SOCIETY.							
Judge—Wm. McCrae, Guelph.							
Wm. Naismith, Falkenburg	Can. Standard	13	16	18½	10	35	92½
Sher. Polmateer, Gravenhurst	Empire State	13½	16	18	10	34	91½
Jas. C. Young, do	do	13	16	18	10	33	90
B. Laycock, do	Sunlight and Cobbler	14	15	18	10	32½	89½
G. W. Miller, do	Can. Standard & Amer. Wonder.	14	16	18	10	31	89

*General appearance.—Considering method of planting, stand of crop, and vigour of growth.

†Apparent yield.—Considering weight of marketable potatoes per square yard, quality, smoothness and uniformity of shape, state and uniformity of maturity, and freedom from sunburn.

NOTE.—The figures in parenthesis at the top of the table are the maximum scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

POTATOES.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	†Apparent yield.	Totals of scores.
MUSKOKA.—*Continued.*		(15)	(17)	(20)	(10)	(38)	(100)
GRAVENHURST & MUSKOKA AGR. SOCIETY.—*Continued.*							
M. J. Bentley, do ..	Puritan	13	15	18	10	26	82
Geo. York, do ..	Empire State ...	11	14	17	10	29	81
S. T. Sims, do ..	do ...	12	15	17	6	28	78
Robt. McKay, do ..	....	11	15	16	5	28	75
NIPISSING							
CHARLTON AGR. SOCIETY.							
Judge—H. L. Goltz, Bardsville.							
O. Attwater, Charlton	White Elephant .	11	17	18	9	35	90
H. T. Kenny, do	Beauty of Hebron	12	17	18	10	31	88
Fred. T. Pummell, do	do	12½	17	18	8½	31	87
S. Ryan, do	Early Rose and Carmen	13	17	18	8	29	85
Thos. Gregory, Zeta	King Edward & Cobbler	13	17	18	9	27	84
B. Eggens, Charlton	Eureka and Gold Coin	11	17	17	8	29	82
S. O. Rodgers, Charlton	....	13	17	17	8	26	81
A. W. Neal, do	Beauty of Hebron	12	17	17	9	24	79
Wm. Netherton, Brentna	Cobbler and Gr. Mountain	11	17	18	8	23	77
Wm. Williams, Charlton	Carman No. 3 ...	11	17	17	8	21	74
A. Quittenton, Brentha	Howard	9	17	15	10	21	72
NORFOLK							
HOUGHTON AGR. SOCIETY.							
Judge—R. Austin, Welland.							
J. R. Bartlett, Courtland	20th Century ...	14¼	16¼	18½	10	31	91
Watson Park, Fair Ground	Wonderful	13¾	16¼	18½	8¼	31½	88¼
Hy. Hazen, do	Carman	13¾	16¼	18½	10	29	87½
W. M. Townsend, Hemlock	Wonderful	13¾	16	19	10	27¼	86
Jas. Alderson, Clear Creek ...	Beauty of Hebron	14	16¼	19	10	25¾	84¾
Andrew Hazen, Fair Ground....	do	13½	16	16½	10	28½	84½
C. Aspden, Pt. Burwell	Carman	13½	16	18	10	26½	84
R. W. Dick, Acacia	Gold Coin	13	16	17	8	29½	83½
Jno. Frost, King Lake	Carman	13¼	16	17	7	29¾	83
Geo. W. Alton, Houghton	Wonderful	12¾	16	18½	10	24½	81¾
Wilfred Dickinson, Cultus	Amer. Wonder ..	13	16	17	10	25	81
A. W. Mercer, Hemlock	Carman	12¾	15½	14½	8	29½	80¼

*General appearance.—Considering method of planting, stand of crop, and vigour of growth.

†Apparent yield.—Considering weight of marketable potatoes per square yard, quality, smoothness and uniformity of shape, state and uniformity of maturity, and freedom from sunburn.

NOTE.—The figures in parenthesis at the top of the table are the maximum scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

POTATOES.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	†Apparent yield.	Totals of scores.
NORFOLK.—*Continued.*		(15)	(17)	(20)	(10)	(38)	(100)
HOUGHTON AGR. SOCIETY.—*Con.*							
R. S. Prett, Fairground	Carman	13½	16	15	8	24½	76¾
T. C. Thomson, Houghton	Planet	10⅝	14½	15	10	26½	76⅛
Robt. Meharg, Glen Meyer	White Elephant	11½	16	16	5	27	75½
Jno. Hazen, Fairground	Early Manitoba	11⅝	16	12	9	26	74⅛
Geo. Edmonds, Glen Meyer	Beauty of Hebron	11½	16	16	5	25½	74
PARRY SOUND							
ARMOUR, RYERSON AND BURK'S FALLS AGR. SOCIETY.							
Judge—Wm. McCrae, Guelph.							
Jas. A. Bell, Burk's Falls	Delaware	13½	15	18	10	31	87½
H. R. Hayward, Scotia Jct.	Amer. Wonder	13	15	18	10	28	84
W. Chalmers, Burk's Falls	Rochester Rose	12	16	18	10	27½	83½
Chas. Inch, do	.....	12	15	18	8	30	83
A. Kennedy, Stirling Falls	Green Mountain	11	15	16	10	30½	82½
W. C. Brimacombe, do	Rural Blush	12	15	17	10	28	82
Jno. T. Smith, do	Maiden's Blush	11½	15	17	9	29	81½
Wm. Alexander, do	Money Maker	11	15	18	10	27	81
Geo. Louth, Burk's Falls	Rose of North	12	15	18	5	30	80
W. Jenkins, Emsdale	Amer. Wonder	13	16	17	10	24	80
Chas. T. Hayward, Emsdale	Amer. Wonder	12	14	18	10	26	80
Jas. Thompson, Burk's Falls	Winchester Rose	12	16	16	10	25	79
Geo. Mason, Sand Lake	Delaware	12	13	17	8	29	79
Fred Cawthra, Burk's Falls	Sensation	11	15	17	6	30	79
Robt. Mason, Sand Lake	Delaware	12	15	18	6	27	78
Geo. Brown, Burk's Falls	Rose	10	14	15	7	30	76
THUNDER BAY							
OLIVER AGR. SOCIETY.							
Judge—H. M. McElroy, Emo.							
Thos. Yelland, Murillo	Gold Coin	15	15	19	10	37	96
Jno. Nicholette, do	Six Weeks	15	16	18	10	36	95
Hy. Moffat, do	Burbank	15	15	19	10	35	94
Norman McNally, do	Uncle Sam	15	17	16	9	36	93
Chas. Gorton, do	Sensation	15	15	18	10	34	92
J. W. Bain, do	Burbank	14	15	19	10	33½	91½
Thos. Hughes, do	Carman No. 3	13	16	19	7	36	91
A. Trotter, Baird Sta.	Carman No. 1	13	16	17	9½	35	90½
A. Todd, Murillo	Early Michigan	12	17	17	10	34	90

*General appearance.—Considering method of planting, stand of crop, and vigour of growth.

†Apparent yield.—Considering weight of marketable potatoes per square yard, quality, smoothness and uniformity of shape, state and uniformity of maturity, and freedom from sunburn.

NOTE.—The figures in parenthesis at the top of the table are the maximum scores.

RESULTS OF COMPETITIONS IN STANDING FIELD CROPS.—*Con.*

POTATOES.

Competitors in Order of Merit.	Name of variety.	*General appearance.	Freedom from blight and insects.	Method and thoroughness of cultivation.	Purity of variety.	†Apparent yield.	Totals of scores.
THUNDER BAY.—*Continued.*		(15)	(17)	(20)	(10)	(38)	(100)
OLIVER AGR. SOCIETY.—*Continued*							
J. H. Scott, Murillo	Burbank	13	16	20	10	30	89
Chas. Hayman, Port Arthur	Early Michigan	13	16	16	10	33	88
R. R. Everett, Murillo	Star of the North	12	17	17	10	32	88
Roy Bingham, do	Bovee	12	17	17	10	32	88
J. W. Rody, do	King Edward	13	16	16½	10	32	87½
R. B. Martin, do	Admiral Dewey	12	16	18	7	34	87
A. McGillivray, do	Rural New Yorker	10½	14	20	10	32	86½
G. L. Morrow, do	Burbank	10	17	17	10	32	86
Jas. Stevenson, do	Beauty of Hebron	14	15	16	10	30	85
Alex. Reid, do	Up-to-Date	12½	15	17	10	30	84½
W. Williamson, do	Six Weeks	13	17	15	10	29	84
Jno. Baxendale, do	Early Galt	12	17	14	10	30	83
G. Shelton, do	Early Pride	11	15	17	8	31	82
Jno. Cook, do	Sensation	12	17	17½	5	30	81½
J. Oster, do	do	13	15	16	8	29	81
Edgar Martin, do	Admiral Dewey	11	16	18	5	31	81
A. Felker, do	Early Michigan	11	16	16	7	31	81
Thos. Hoffman, do	Carman No. 1	12	16	15	10	28	81
Ross MacKenzie, do	Sensation	12	16	13	8	31	80
E. E. Thomas, Intola	Early Fortune	11	15	15	10	28	79
Frank Cook, Murillo	Sensation	12	16	16	5	29	78
C. L. Smith, do	Admiral Dewey	13	16	14	5	29	77
Ed. Bock, do	Noxall	11	15	14	7	29	76
WELLAND							
FENWICK AGR. SOCIETY							
Judge—Geo. Sexsmith, Stone Quarry.							
Jno. Leppard, Fenwick	Pel. Mammoth	12	16	16	10	34½	88½
M. Stirtzinger, do	Dooley	10	33½	10	10	34	87½
E. Clemens, Ridgeville	W. Wellington	14	16	19	10	28	87
Geo. Kappler, Fenwick	Pel. Mammoth	13	16	18	10	27	84
H. Stirtzinger, do	do	13	15	18	9	26	81
A. V. Haist, Ridgeville	Bruce	13	16	15	9	23	76
E. E. Sauer, do	W. Wellington	12	16	20	9	18	75
Albert Haist, do	Planet	13	15	12	10	24	74
J. Stirtzinger, Fenwick	W. Wellington	12	16	14	8	24	74

*General appearance.—Considering method of planting, stand of crop, and vigour of growth.

†Apparent yield,—Considering weight of marketable potatoes per square yard, quality, smoothness and uniformity of shape, state and uniformity of maturity and freedom from sunburn.

NOTE.—The figures in parenthesis at the top of the table are the maximum possible scores.

GRAIN FROM STANDING FIELD CROP COMPETITIONS.

PRIZE WINNERS AT CANADIAN NATIONAL EXHIBITION, 1913.

Prize Won.	Competitor and Address.	Variety.
OATS.	*Grain in Sack.*	
Division 1—		
1st	H. L. Goltz, Bardsville	Improved Scotch.
2nd	J. J. Beaumont, Bracebridge	Siberian.
Division 2—		
1st	C. H. Ketcheson, Belleville	Waverley.
2nd	A. H. Foster, Twin Elm	Banner.
3rd	H. J. Gay, Frankford	White Danish.
4th	Eli McCuaig, Gamebridge	Sterling.
Division 3—		
1st	W. G. Rennie, Ellesmere	Lincoln.
2nd	Foyston Bros, Minesing	O.A.C. 72.
3rd	Alex. Hall, Ayr	Banner.
4th	J. A. Cockburn, Puslinch	Sensation.
BARLEY.		
Division 2—		
1st	Urias Nelson, Demorestville	O.A.C. 21.
Division 3—		
1st	F. A. Legge, Jefferson	O.A.C. 21.
2nd	F. E. Wickham, Walter's Falls	O.A.C. 21.
3rd	Alex. Morrison, Smithdale	O.A.C. 21.
4th	Geo. Simpson, Onondaga	O.A.C. 21.
SPRING WHEAT.		
Division 3—		
1st	P. W. Boynton & Son, Dollar	Goose.
FALL WHEAT.		
Division 3—		
1st	W. C. Shaw, Hespeler	Golden Jewel.
2nd	A. S. Clemens, Hespeler	Dawson's Golden Chaff.
3rd	J. A. Gillespie, Ayr	Dawson's Golden Chaff.
4th	Wm. Thompson, R.R. 2, Aurora	Winter King.
OATS.	*Sheaves.*	
Division 1—		
1st	H. L. Goltz, Bardsville	Improved Scotch.
2nd	E. H. Boodway, Emsdale	Banner.
3rd	J. J. Beaumont, Bracebridge	Siberian.
4th	John Wilson, Gore Bay	Daubeney.
Division 2—		
1st	Chas. H. Thurston, Bobcaygeon	Yellow Russian.
2nd	S. J. Wood, Metcalfe	Imp. American Banner.
3rd	D. Moore, The Ridge	Banner.
4th	A. A. McLennan, Lancaster	White Irish.
Division 3—		
1st	R. M. Mortimer, Honeywood	Lincoln,
2nd	Jas. McKague, Teeswater	Bumper King.
3rd	S. Bingham, Brisbane	Sterling.
4th	R. T. Baty, Wilton Grove	American Banner.

GRAIN FROM STANDING FIELD CROP COMPETITIONS.—*Continued.*

PRIZE WINNERS AT CANADIAN NATIONAL EXHIBITION, 1913.—*Con.*

Prize Won.	Competitor and Address.	Variety.
BARLEY.		
Division 2—		
1st	I. H. Clemence, Bowmanville, R.R. 4	O.A.C. 21.
2nd	Urias Nelson, Demorestville	O.A.C. 21.
3rd	Jas. Leask & Son	O.A.C. 21.
Division 3—		
1st	Geo. Simpson, Onondaga	O.A.C. 21.
2nd	Alex. Morrison, Smithdale	O.A.C. 21.
3rd	F. A. Legge, Jefferson	O.A.C. 21.
4th	Fred. E. Wickham, Walter's Falls	O.A.C. 21.
SPRING WHEAT.		
Division 2—		
1st	Lewis Galbraith, R.M.D., Renfrew	White Fife.
Division 3—		
1st	P. W. Boynton, Dollar	Goose.
2nd	J. I. Balsdon, Milliken	Goose.
FALL WHEAT.		
Division 3—		
1st	J. A. Gillespie, Ayr	Dawson's Golden Chaff.
2nd	Wm. Thompson, R.R. 2, Aurora	Winter King.
3rd	A. S. Clemens, Hespeler	Dawson's Golden Chaff.
4th	W. C. Shaw, Hespeler	Golden Jewel.

PRIZE WINNERS AT THE CANADA CENTRAL EXHIBITION, 1913.

Oats.	*Grain.*	
1st	W. G. Rennie, Ellesmere	Lincoln.
2nd	J. A. Cockburn, Puslinch	Sensation.
3rd	H. L. Goltz, Bardsville	Improved Scotch.
4th	Foyston Bros, Minesing	O. A. C., 72.
SPRING WHEAT.		
1st	P. W. Boynton & Son, Dollar	Goose.
2nd	Lewis Galbraith, Renfrew	White Fife.
3rd	D. B. Stewart, Renfrew	Marquis.
FALL WHEAT.		
1st	Wm. Thompson, Aurora	Winter King.
2nd	W. C. Shaw, Hespeler	Golden Jewel.
3rd	J. A. Gillespie, Ayr	Dawson's Golden Chaff.
4th	A. S. Clemens, Hespeler	Dawson's Golden Chaff.
BARLEY.		
1st	Alex. Morrison, Smithdale	O.A.C. 21.
2nd	Fred. E. Wickham, Walter's Falls	O.A.C. 21.
3rd	F. A. Legge, Jefferson	O.A.C. 21.
4th	F. A. Clark, Headford	O.A.C. 21.

GRAIN FROM STANDING FIELD CROP COMPETITIONS.—*Continued.*

PRIZE WINNERS AT THE CANADA CENTRAL EXHIBITION, 1913.—*Con.*

Prize Won.	Competitor and Address.	Variety.
OATS.	*Sheaves.*	
1st	C. H. Thurston, Bobcaygeon	Yellow Russian.
2nd	H. L. Goltz, Bardsville	Improved Scotch.
3rd	E. H. Boodway, Emsdale	Banner.
4th	J. W. Edgar, Gorrie	Swedish Select.
SPRING WHEAT.		
1st	P. W. Boynton & Son, Dollar	Goose.
2nd	Louis Galbraith, Renfrew	White Fife.
3rd	D. B. Stewart, Renfrew	Marquis.
FALL WHEAT.		
1st	Wm. Thompson, Aurora	Winter King.
2nd	J. A. Gillespie, Ayr	Dawson's Golden Chaff.
3rd	W. C. Shaw, Hespeler	Golden Jewel.
4th	A. Clemens, Hespeler	Dawson's Golden Chaff.
BARLEY.		
1st	Geo. Simpson, Onondaga	O.A.C. 21.
2nd	F. A. Legge, Jefferson	O.A.C. 21.
3rd	Robt. Howe, Smithdale	O.A.C. 21.
4th	J. J. Johnston, Rocklyn	O.A.C. 21.

PRIZE WINNERS AT THE GUELPH WINTER FAIR, 1913.

Prize Won.	Competitor and Address.	Variety.
	OATS.	
1st	Foster Bros., Clarksburg	Lincoln.
2nd	W. G. Rennie, Ellesmere	Lincoln.
3rd	H. L. Goltz, Bardsville	Improved Scotch.
4th	J. A. Cockburn, Puslinch	Sensation.
5th	A. Schmidt, Mildmay	Sensation.
6th	Wm. G. Wilson, Mitchell Square	Reg. Banner.
7th	Short Bros., Salem	Abundance.
8th	Foyston Bros, Minesing	O.A.C. 72.
9th	Alex. Hall, Ayr	Lincoln.
10th	Jas. W. Edgar, Gorrie	Swedish Select.
	BARLEY.	
1st	Alex. Morrison, Smithdale	O.A.C. 21.
2nd	F. A. Legge, Jefferson	O.A.C. 21.
3rd	F. E. Wickson, Walter's Falls	O.A.C. 21.
4th	Geo. Simpson, Onondaga	O.A.C. 21.
5th	Robert Howie, Smithdale	O.A.C. 21.
	SPRING WHEAT.	
1st	James Rennie, Milliken	Goose.
2nd	L. Summerfeldt, Unionville	Goose.
3rd	P. W. Boynton & Son, Dollar	Goose.

GRAIN FROM STANDING FIELD CROP COMPETITIONS.—*Continued.*

PRIZE WINNERS AT THE GUELPH WINTER FAIR, 1913.—*Con.*

Prize Won.	Competitor and Address.	Variety.
	FALL WHEAT.	
1st	J. A. Gillespie, R. R. 3, Ayr	Dawson's Golden Chaff.
2nd	Jos. Taylor, R. R. 7, Galt	Dawson's Golden Chaff.
3rd	W. C. Shaw, Hespeler	Golden Jewel.
4th	A. S. Clemens, R.R. 1, Hespeler	Dawson's Golden Chaff.
5th	Wm. Thompson, R.R. 2, Aurora	Winter King.
	POTATOES.	
1st	Wm. Naismith, Falkenburg	Can. Standard.
2nd	Sherman Polmateer, Gravenhurst	Empire State.
3rd	Dougald Cameron, Mt. Brydges	Dooley.
4th	I. R. Bartlett, Courtland	20th Century.
5th	A. McNeill, Strathroy	Dooley.
	CORN.	
1st	S. J. Shepley, Amherstburg	Wisconsin No. 7.
2nd	John Park, Amherstburg	Wisconsin No. 7.
3rd	B. R. Cohoe, South Woodslee	Wisconsin No. 7.
4th	W. Anderson, Malden Centre	Wisconsin No. 7.
5th	S. Diemer, Woodslee	Wisconsin No. 7.
	PEAS.	
1st	Abe Meihlhousen, Lion's Head	Golden Vine.
2nd	Ronald Cameron, Spry	Golden Vine.
3rd	Wm. Bray, Spry	Golden Vine.
4th	Jas. A. Spiers, Lion's Head	Golden Vine.
5th	Wm. Bray, Junior, Lion's Head	Golden Vine.

PRIZE WINNERS AT OTTAWA WINTER FAIR, 1914.

OATS.

1st	J. and D. J. Campbell, Woodville	Reg. Banner.
2nd	Henry Mountjoy, Burketon	Stirling.
3rd	W. G. Wilson, Woodville	Garton's Abundance.
4th	Jas. Ferguson, Dalmeny	Ligowa.
5th	Fletcher Walker, Royston	Reg. Banner.
6th	Peter Drummond, Peterboro, R. R. 8	Bumper King.
7th	T. A. Kelly, Millbrook	Reg. Banner.
8th	R. E. Drummond, Peterboro, R. R. 8	Siberian.
9th	S. J. Woods, Metcalfe	Imp. A. Banner.
10th	Geo. R. Bradley, Kars, R. R. 2	Banner.

BARLEY.

1st	Jas. Leask & Son, Taunton	O. A. C. 21.
2nd	Daniel Rickard, Bowmanville, R. R. 4	"

SPRING WHEAT.

1st	G. MacIntyre, Renfrew, R. M. D. 1	Marquis.
2nd	D. B. Stewart, Renfrew	"
3rd	D. Muirhead, Renfrew, R. M. D. 2	White Fife.

POTATOES.

1st	Thos. Wright, Nesterville	Maggie Murphy.
2nd	Alex. Campbell, Livingston Creek	Green Mountain.
3rd	Wm. T. Brandon, Thessaion	Carman No. 1.

PRINCIPAL WEEDS FOUND IN SOME OF THE FIELDS IN THE COMPETITION.

Algoma.

North Shore.—Wild Buckwheat, annual sow thistle, shepherd's purse, lamb's quarters, Canada thistle, wormseed mustard, wild tares, curled dock, yarrow, smartseed, ragweed, wild oats, blue burr. In addition to the weeds most of the fields had a percentage of other varieties of oats, barley and wheat in the crop judged.

Brant.

Onondaga.—Ragweed, trefoil, Canada thistle, curled dock, bindweed, smartweed, boneset, lamb's quarters, tares, wormseed mustard, red dock, wild buckwheat, milkweed, mustard, false flax, annual and perennial sow thistle. Also a good deal of oats and two-rowed barley in many fields.

Paris.—Canada thistle, lamb's quarters, wild buckwheat, couch, milkweed, smartweed, ragweed, ox-eye daisy, buckhorn, trefoil, annual sow thistle, curled dock.

Six Nations.—Ragweed, couch, daisy, Canada thistle, lamb's quarters, curled dock, wild oats, annual sow thistle, milkweed, yarrow, wild mustard, sweet clover.

Bruce.

Arran and Tara.—Sow thistle trefoil, Canada thistle, mustard, tansy, bindweed, dock, lamb's quarters, wild oats, wormseed mustard, foxtail, milkweed, plantain, chicory.

Carrick.—Canada thistle, trefoil, wormseed mustard, wild oats, wild buckwheat, dock, pigeon weed, lamb's quarters, perennial sow thistle.

Chesley.—Annual sow thistle, Canada thistle, wild oats, dock, wormseed mustard, ragweed, bindweed, plantain.

Eastnor.—Lamb's quarters, wormseed mustard, Canada thistle, foxtail, annual sow thistle, mustard, couch, yarrow, ox-eye daisy, stickseed, cockle, shepherd's purse, golden rod, black bindweed, wild oats. A mixture of other varieties and of oats and barley in some of the fields.

Hepworth.—Wild oats, Canada thistle, golden rod, pigweed, dock.

Huron Township.—Canada thistle, wild buckwheat, wild oats, bindweed, cockle.

Lucknow.—Lamb's quarters, Canada thistle, wild buckwheat, milkweed, foxtail, wild oats, couch.

Northern.—Wormseed mustard, wild buckwheat, wild oats, Canada thistle, June grass.

Pinkerton.—Canada thistle, wormseed mustard, curled dock, black bindweed, wild oats, white cockle, perennial sow thistle, blue burr, wild buckwheat, black medick, couch.

Teeswater.—Canada thistle, wild buckwheat, wormseed mustard, trefoil, lamb's quarters, wild oats, dock.

Carleton.

Carleton County.—Perennial and annual sow thistle, Canada thistle, couch, wild pea, mustard, milkweed, wild oats.

ANNUAL SOW THISTLE.

(Sonchus oleraceus.)

PERENNIAL SOW THISTLE.
(Sonchus arvensis.)

Fitzroy.—Canada thistle, couch, wild oats, lamb's quarters, sow thistle.

Metcalfe.—Canada thistle, annual and perennial sow thistle, couch, curled dock, lamb's quarters, milkweed.

Dufferin.

Dufferin.—Wild oats, sow thistle, cockle, Canada thistle, wormseed mustard, bladder campion, dock, false flax, wild tares, catchfly, blue burr.

Dufferin Central.—Canada thistle, pigweed, couch, sour dock, sow thistle, squirrel tail, mixtures of other grain in some of the fields.

East Luther.—Wild oats, dock, sow thistle, Canada thistle, pigweed, ball mustard, catchfly, tares, golden rod, hare's ear mustard.

Dundas.

Mountain.—Cockle, buckwheat, perennial sow thistle, Canada thistle, couch, charlock, ragweed, broad-leaf plantain, curled dock, daisy, fleabane. Much barley in some fields.

Winchester.—Canada thistle, white cockle, milkweed, lamb's quarters, couch, perennial sow thistle, curled dock, wild pea, wormseed mustard.

Durham.

Cartwright.—Lamb's quarters, wild buckwheat, Canada thistle, trefoil, sow thistle, blue burr, ragweed.

Millbrook.—Wild buckwheat, lamb's quarters, Canada thistle, sow thistle, couch, bladder campion, yarrow.

Orono.—Canada thistle, couch, pigweed, lamb's quarters, wild buckwheat, ragweed, perennial sow thistle, corn cockle, foxtail, smartweed, round-leaved mallow.

Port Hope.—Wild pea, perennial sow thistle, wild oats, white cockle, couch.

West Durham.—Perennial sow thistle, Canada thistle, ragweed, wild pea, wild oats, purple cockle, couch, wild tares.

Elgin.

Aldboro.—Mustard, ragweed, smartweed.

Shedden.—Wild buckwheat, ragweed, sow thistle, Canada thistle, catchfly, dock, foxtail, milkweed.

S. Dorchester.—Canada thistle, ragweed, curled dock, milkweed, chess, sow thistle.

Essex.

S. Woodslee.—Purslane, ragweed, Canada thistle, foxtail, barnyard grass, lamb's quarters, annual sow thistle, pigweed, milkweed, spanish needle, tumble weed, golden rod, fireweed, smartweed, wild buckwheat, dock, charlock, burdock, wild pea.

Windsor.—Pigweed, purslane, Canada thistle, foxtail, ragweed, milkweed, spanish needle, annual sow thistle, barnyard grass, lamb's quarters, tumble weed, charlock, catchfly.

Ox-eye Daisy.
(*Chrysanthemum Leucanthemum.*)

Frontenac.

Kingston Tp.—Couch, Canada thistle, sour dock, mustard, lamb's quarters, milkweed, annual sow thistle, ox-eye daisy, chicory, stinkweed, wild vetch.

Glengarry.

Kenyon.—Canada thistle, couch, perennial sow thistle, white cockle, lamb's quarters, milkweed, wild mustard, wormseed mustard, curled dock.

St. Lawrence Valley.—Perennial sow thistle, Canada thistle, wild pea, vetches, ragweed, mustard, couch, wild tares.

Grey.

Ayton.—Canada thistle, mayweed, wild oats, catchfly, sow thistle, foxtail, stickseed, June grass.

Collingwood Tp.—Canada thistle, curled dock, wild oats (this township badly affected with this weed).

Egremont.—Wild oats, pigweed, couch, annual and perennial sow thistle, Canada thistle, wild buckwheat, ox-eye daisy, foxtail, moon daisy.

Keppel.—Wild buckwheat, lamb's quarters, Canada thistle, annual sow thistle, curled dock, wild oats, plantain, mullein, buckhorn, wild carrot, blue burr, burdock.

Kilsyth.—Lambs' quarters, pigweed, wild oats, Canada thistle, buckhorn, mullein, annual sow thistle, foxtail, bladder campion.

Normanby.—Canada thistle, curled dock, stickseed, wild buckwheat, lamb's quarters, wild oats, annual and perennial sow thistle.

Osprey.—Canada thistle, wild oats, ox-eye daisy. Wild oats very prevalent.

Proton.—Canada thistle, sow thistle.

Rocklyn.—Canada thistle, foxtail, wild tares, pigweed, wild oats (very bad in this section), milkweed, sour dock, golden rod, catch fly, wild buckwheat, couch, mustard, water grass, yarrow, ball mustard, burdock, bunch grass, buckhorn.

South Grey.—Pigweed, Canada thistle, dock, tansy, foxtail, shepherd's purse, sow thistle, wild oats.

Walter's Falls.—Couch, Canada thistle, blue burr, wild buckwheat, foxtail, catchfly, sour dock, pigweed, wild oats (quite numerous), milkweed, perennial sow thistle, ball mustard, golden rod, daisy, hare's ear mustard, watergrass.

Haldimand.

Caledonia.—Couch, ragweed, dock, shepherd's purse, Canada thistle, wild oats.

Haldimand.—Pigweed, ragweed, sow thistle, Canada thistle, wild artichoke, sour dock, golden rod, milkweed, wormseed mustard, mustard.

Southern Branch.—Ragweed, mayweed, Canada thistle, tares, burdock, dock.

Halton.

Halton Co.—Canada thistle, dock, lamb's quarters, ragweed, foxtail, cockle, couch, curled dock, annual and perennial sow thistle, milkweed, wild buckwheat,

GREAT RAGWEED.
(*Ambrosia trifida.*)

wild oats, mayweed, burdock, black bindweed, false flax, shepherd's purse, mustard.

Hastings.

Frankford.—Canada thistle, blue grass, couch, black medick, sow thistle, wild oats, ragweed, bindweed, dock. A few heads of wheat in some fields.

Madoc.—Perennial sow thistle, Canada thistle, lamb's quarters, milkweed, couch, night-flowering catch fly, shepherd's purse, curled dock, ox-eye daisy, wild buckwheat, yarrow, stickseed.

Maynooth.—Canada thistle, couch, nettle, many minor weeds.

Stirling.—Canada thistle, lamb's quarters, curled dock, sheep sorrel, perennial and annual sow thistle, black medick, wild pea, milkweed, ox-eye daisy, wild oats, couch, wild buckwheat.

Wollaston.—Canada thistle, bladder campion, couch, nettle.

Huron.

Blyth.—Wild oats, annual and perennial sow thistle, Canada thistle, bindweed, dock, bladder campion.

E. Huron.—Wild oats, Canada thistle, annual sow thistle, ox-eye daisy. The fields of leading prize winners very free of weeds.

Howick.—Curled dock, lamb's quarters, Canada thistle, wormseed mustard, wild oats, bindweed, mayweed, night-flowering catchfly, perennial sow thistle, couch, ox-eye daisy, buckhorn.

Seaforth.—Canada thistle, bindweed, annual and perennial sow thistle, wild oats (wild oats very prevalent).

Turnberry.—Canada thistle, buckhorn, lamb's quarters, wormseed mustard, wild buckwheat, mayweed, curled dock, wild oats, couch, ragweed, ox-eye daisy, night-flowering catchfly, perennial sow thistle.

West Huron.—Lamb's quarters, wild oats, Canada thistle, annual sow thistle, dock, bindweed, sweet clover, ragweed. In some fields mixtures of barley and other varieties of oats.

Kenora.

Dryden.—Timothy, wild lettuce, horsetail, yarrow, fireweed, cinquefoil, vetches, red top, blue grass, Canada thistle, dandelions, sow thistle, catchfly, wormseed mustard, couch, lamb's quarters, shepherd's purse, mugwort, wild lettuce, swamp thistle, curled dock, false flax, sedge, skunk-tail grass, bladder campion, ball mustard.

Kent.

Harwich.—Canada thistle, milkweed, foxtail, smartweed, pigweed, ragweed, spanish needle, lamb's quarters, wild grass, tumbleweed, curled dock.

Raleigh and Tilbury.—Canada thistle, foxtail, milkweed, tumbleweed, lamb's quarters, ragweed, curled dock.

Wallaceburg.—Dock, wild parsnip, Canada thistle, pigweed, ragweed, milk weed, wild tares. Much barley and a little goose wheat in some fields.

BLUE WEED.

(*Echium Vulgare.*)

Lambton.

Bosanquet.—Ragweed, Canada thistle, dock, pigweed, lamb's quarters, sow thistle. A sprinkling of barley in many fields.

Brooke and Alvinston.—Canada thistle, wild buckwheat, dock, burdock, foxtail, prickly lettuce, pigweed, ragweed, penny cress, plantain, tares, wormseed mustard, false flax, annual sow thistle, milkweed, cockle, hare's-ear mustard, mustard, blue burr.

Petrolia and Enniskillen.—Dock, wild buckwheat, Canada thistle, ragweed, wormseed mustard, prickly lettuce, couch, wild pea, trefoil, plantain, cockle, wild oats.

Lanark.

South Lanark.—Canada thistle, sow thistle, daisy, spike mustard, wild pea, mustard, wild oats, couch, toad-flax. Some barley in many fields.

Leeds.

Lansdowne.—Canada thistle, wild pea, black bindweed, dock, ragweed, ball mustard, purple cockle, curled dock, ox-eye daisy, couch, perennial sow thistle, wild oats, wild carrot. Many minor weeds.

Lombardy.—Canada thistle, sow thistle, mustard, toad flax, couch, lamb's quarters, wild peas, ball mustard.

Lennox and Addington.

Lennox.—Milkweed, lamb's quarters, shepherd's purse, wild vetch, sour dock, ragweed, Canada thistle, foxtail, perennial and annual sow thistle, chicory, burdock, mustard.

Lincoln.

Clinton Tp.—Canada thistle, curled dock, ragweed, couch.

Peninsular Central.—Canada thistle, ragweed, curled dock, couch, chicory.

Manitoulin.

Gore Bay.—Canada thistle, ragweed, wild buckwheat, wild oats, foxtail, shepherd's purse, false flax.

Middlesex.

E. Middlesex.—Canada thistle, shepherd's purse, lamb's quarters, smartweed, ragweed, curled dock, wild buckwheat, wormseed mustard, catchfly, foxtail, bindweed, wild oats, trefoil, chickweed, ribgrass, couch.

McGillivray.—Milkweed, Canada thistle, wild oats, sow thistle, red dock, daisy.

Mosa and Ekfrid.—Ragweed, red dock, Canada thistle. Much barley and other varieties of oats in some fields.

N. Middlesex.—Wild oats, sow thistle, milkweed, red dock, tares, wild carrot.

Strathroy.—Ragweed, Canada thistle, red dock, lamb's quarters, wild buckwheat, couch. Mixed grain in some fields.

Westminster.—Canada thistle and minor weeds.

BINDWEED.

(*Convolvulus arvensis.*)

MUSKOKA.

Medora and Wood.—Ox-eye daisy, wild oats, Canada thistle, yarrow, tares, couch, swamp weeds, wild buckwheat, curled dock.

S. Muskoka.—Milkweed, sow thistle, Canada thistle, black bindweed, wormseed mustard, curled dock, cockle, lamb's quarters, wild oats, mustard.

Stephenson and Watt.—Canada thistle, wormseed mustard, white cockle, black bindweed, wild tares, sow thistle, plantain, spurry, curled dock, couch, blue burr, golden rod, wild oats, mustard, ragweed.

NIPISSING.

New Liskeard.—Black bindweed, catchfly, purple and white cockle, wild vetch, wormseed mustard, Canada thistle, stickseed, lamb's quarters, ball mustard, spurry, false flax.

Verner.—Annual and perennial sow thistle, Canada thistle, wild oats, ball mustard.

NORTHUMBERLAND.

Wooler.—Lamb's quarters, black bindweed, Canada thistle, couch, wild oats, tares, sow thistle, mayweed, dock, blue grass, milkweed, wormseed mustard.

ONTARIO.

Beaverton.—Wild buckwheat, Canada thistle, annual and perennial sow thistle, sour dock, wild oats, couch, wild mustard, lamb's quarters, wild pea, shepherd's purse, sheep burr, mustard, cockle.

OXFORD.

Ingersoll, N. and W. Oxford.—Canada thistle, ragweed.

Tillsonburg and Dereham.—Canada thistle, milkweed, ragweed, curled dock, burdock, ox-eye daisy.

West Zorra and Embro.—Canada thistle, ragweed, couch, sow thistle.

PARRY SOUND.

Armour Ryerson and Burks Falls.—Canada thistle, lamb's quarters, wild buckwheat, fox tail, shepherd's purse, couch, plantain, ox-eye daisy, yarrow, nettle, smartweed, wild mint, swamp weeds, cockle.

Loring.—Spurry, Canada thistle, catchfly, mustard, corn cockle, wild oats, ox-eye daisy.

Machar.—Golden rod, wild mustard, prickly lettuce, ragweed, Canada thistle, curled dock, wild tares, couch, wild oats.

Magnetawan.—Canada thistle, lamb's quarters, spurry, annual sow thistle, couch, golden rod, ox-eye daisy, nettle, wild oats, swamp weeds, mustard, timothy.

McMurrich.—Canada thistle, wild oats, lamb's quarters, cockle, golden rod, redtop, ox-eye daisy, ferns, couch, sow thistle, orange hawk weed, wild buckwheat, black-eyed Susan, wild grasses and berry bushes.

Perry.—Lamb's quarters, Canada thistle, yarrow, black bindweed, motherwort, golden rod, wild lettuce, ox-eye daisy, wild oats, mustard.

HARE'S-EAR MUSTARD.
(*Conringia orientalis.*)

Powassan.—Ox-eye daisy, buttercup, spurry, Canada thistle, wild pea, chicory, sour dock, bladder campion, wild oats, catchfly, couch.

Strong.—Canada thistle, ox-eye daisy, prickly lettuce, wild oats, wild flax, golden rod, lamb's quarters, couch.

Peel.

Albion and Bolton.—Worm seed mustard, wild buckwheat, perennial and annual sow thistle, couch, wild oats, lamb's quarters, trefoil, ragweed.

Peel County.—Pigweed, Mayweed, annual and perennial sow thistle, wild buckwheat, ragweed, chicory, curled dock, Canada thistle, mustard, wild tares, flax, toad flax, smartweed, foxtail, wild oats.

Toronto Township.—Curled dock, Canada thistle, plantain, perennial sow thistle, wild buckwheat, ragweed, couch, ox-eye daisy, wild oats, burdock.

Perth.

Kirkton.—White cockle, dock, Canada thistle, wild oats, bindweed, chicory, chess.

Peterboro.

Otonabee.—Canada thistle, lamb's quarters, wild buckwheat, yellow trefoil, ragweed, stickseed, wild oats, perennial and annual sow thistle, curled dock, tares, chess, catchfly, burdock, cinquefoil, wormseed mustard, couch, shepherd's purse, pigweed.

Peterboro Ind.—Canada thistle, perennial sow thistle, lamb's quarters, wormseed mustard, wild oats, couch, chicory, wild buckwheat, spurry, bladder campion.

Prescott.

Alfred.—Perennial sow thistle, Canada thistle, wild pea, ox-eye daisy, false flax.

Prince Edward.

Ameliasburg.—Couch, penny cress, ragweed, lamb's quarters, wild oats, blue weed, Canada thistle, milk weed, mustard.

Prince Edward.—Ragweed, lamb's quarters, couch, wild buckwheat, milkweed, curled dock, Canada thistle, plantain, vetch.

Sophiasburg.—Canada thistle, mustard, wild buckwheat, couch, wild pea, sour dock, milkweed.

Renfrew.

Arnprior.—Canada thistle, lamb's quarters, couch, wild buckwheat, smartweed, sow thistle, wild oats.

Cobden.—Mustard, tares, sow thistle.

North Renfrew.—Wild pea, Canada thistle, tares.

Renfrew.—Wild oats, wild tares, Canada thistle, perennial sow thistle, ox-eye daisy, purple cockle, milkweed.

BALL MUSTARD.
(*Neslia paniculata.*)

Simcoe.

Barrie.—Sow thistle, Canada thistle, wild oats. Some barley in a few fields.
East Simcoe.—Sow thistle, Canada thistle.
Nottawasaga and Gt. Northern.—Canada thistle, sow thistle, milkweed, wild oats, cockle, dock, ox-eye daisy, tares, wild mustard, couch, smartweed.

Sudbury.

Warren.—Canada thistle, ox-eye daisy, timothy, wild oats, false flax, ball mustard, wormseed mustard, spurry, hemp nettle, tares, couch.

Victoria.

Eldon.—Wild oats, blue burr, wild pea, catchfly, dock, cow cress, Canada thistle, sow thistle, ragweed.
Emily.—Canada thistle, couch, ragweed, blue burr, wild oats, sow thistle.
Fenelon Falls.—Ragweed, wild buckwheat, sow thistle, mustard, cockle, wild oats, couch, Canada thistle, lamb's quarters, foxtail.
Verulam.—Curled dock, lamb's quarters, Canada thistle, tares, wild oats, couch, blue burr, sow thistle, cockle.

Waterloo.

South Waterloo.—Canada thistle, curled dock, chess, corn cockle, shepherd's purse, burdock, ragweed, peppergrass, mullein.

Welland.

Bertie.—Ragweed, Canada thistle, wild tares, curled dock, sow thistle, couch, wild lettuce.
Welland.—Canada thistle, ragweed, curled dock, wild buckwheat, wormseed mustard, corn cress, wild lettuce, milkweed, plantain, sow thistle, wild rice, mustard, sweet clover, fleabane, evening primrose.

Wellington.

Centre Wellington.—Cockle, mustard, wild buckwheat, Canada thistle, sow thistle, wild oats, bladder campion.
Erin.—Canada thistle, lamb's quarters, wild oats, bindweed.
Mt. Forest.—Canada thistle, wild oats, shepherd's purse, perennial sow thistle.
Puslinch.—Wild buckwheat, cockle, sow thistle, wild oats, Canada thistle.

Wentworth.

West Flamboro.—Curled dock, Canada thistle, lamb's quarters, wormseed mustard, purple cockle, black bindweed, milkweed, pigweed, black medick, wild buckwheat, shepherd's purse, sweet clover, wild oats, foxtail, dock.

BLADDER CAMPION.
(*Silene latifolia.*)

YORK.

Markham.—Yellow trefoil, wild tares, wild oats, ragweed, couch, Canada thistle, wormseed mustard, annual sow thistle, ox-eye daisy, mustard, bladder campion, shepherd's purse, wild tares, curled dock, plantain, wild buckwheat.

Newmarket.—Shepherd's purse, wild buckwheat, Canada thistle, chess, couch, cockle, yellow trefoil, wild oats, wild tares, buckhorn, sow thistle.

Richmond Hill.—Couch, dock, tares, sow thistle, Canada thistle, pigweed, wild oats, cockle.

Scarboro.—Canada thistle, perennial sow thistle, purple and white cockle, ox-eye daisy.

Schomberg.—Wild oats, perennial sow thistle, Canada thistle, vetch, wild peas, mustard.

EIGHTH ANNUAL REPORT

OF THE

Horticultural Societies

OF ONTARIO

FOR THE YEAR

1913

(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE, TORONTO)

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO

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1914.

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29-37 Richmond Street West,
TORONTO.

To His Honour Sir John Morison Gibson, Knight Commander of the Most Distinguished Order of St. Michael and St. George, a Colonel in the Militia of Canada, etc., etc.

Lieutenant-Govenor of the Province of Ontario.

May it Please Your Honour:

I have the honour to present herewith for your consideration the Report of the Horticultural Societies of Ontario for the year 1913.

Respectfully yours,

Jas. S. Duff,

Minister of Agriculture.

Toronto, 1914.

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ANNUAL REPORT
OF
THE HORTICULTURAL SOCIETIES OF ONTARIO
1913

To the Honorable Jas. S. Duff, Minister of Agriculture.

SIR,—I have the honour to present herewith the eighth Annual Report of the Horticultural Societies of Ontario, which contains proceedings of the Annual Convention of the Ontario Horticultural Association, which was the largest and most enthusiastic Convention yet held by this organization. By referring to the statement of membership and expenditure during the past year it will be seen that the societies have grown rapidly and the expenditure for civic betterment has increased in proportion. A comparative statement of the Legislative grants and membership for the past three years is given in detail. All of which is respectfully submitted.

I remain, faithfully yours,

J. LOCKIE WILSON,

Superintendent.

J. H. Bennett, President.

OFFICERS FOR 1914

President ..... J. H. Bennett, Barrie.
First Vice-President ..... Rev. G. W. Tebbs, Orangeville.
Second Vice-President ..... Dr. F. E. Bennett, St. Thomas.
Secretary and Editor ..... J. Lockie Wilson, Toronto.
Treasurer ..... C. A. Hesson, St. Catharines.

Directors: District 1, F. B. Bowden, Hawkesbury; 2, R. E. Kent, Kingston; 3, Geo. Vickers, Barrie; 4, T. D. Dockray, Toronto; 5, Jas. Ogilvie, Hamilton; 6, Thos. Cottle, Clinton; 7, R. W. Brooks, Brantford; 8, W. W. Gammage, London; 9, H. J. McKay, Windsor.

Honorary Directors: Rev. A. H. Scott, Perth; Prof. Macoun, Ottawa; Prof. Hutt, Guelph; W. B. Burgoyne, St. Catharines.

Auditors: J. S. Moorcraft, Bowmanville, and Mrs. Potts, Hamilton.

Representative to Canadian National Exhibition: W. J. Diamond, Belleville.
Representatives to American Civic Association: J. Lockie Wilson., Rev. A. H. Scott, and W. B. Burgoyne.

Committee on Names and Varieties: Jno. Cavers, Oakville; Prof. Macoun, Ottawa; F. E. Buck, Ottawa; Prof. Hutt, Guelph; Wm. Hunt, Guelph; H. J. Moore, Niagara Falls; Roderick Cameron, Toronto; Miss M. E. Blacklock, Toronto.

TREASURER'S REPORT.

For Year Ending November 17, 1913.

Receipts.

Balance from 1911-12	$94 73
Affiliation Fees: Orangeville, $2; Guelph, $2; Galt, $3; Oakville, $2; Port Hope, $2; Caledonia, $2; Stratford, $2; Hamilton, $5; Goderich, $2; Seaforth, $2; Fergus, $2; Mitchell, $2; Bowmanville (two years), $4; Thornbury, $2; Cobourg, $2; Toronto, $5; Clinton, $2; Belleville, $2; Lindsay, $2; Hanover, $2; Caledonia, $2; Owen Sound, $2; Smith's Falls, $2; St. Catharines, $5; Simcoe, $2; Kincardine, $2; Windsor, $5; St. Thomas, $4; Port Dover, $2; Haileybury, $2; Vankleek Hill, $2; Brantford, $2; Woodstock, $2; Sandwich, $2; Galt, $2; Stirling, $2; Durham, $2; Kingston, $3; Waterloo, $2; Winchester, $2; London, $4; Paris, $2; Walkerville, $3; Barrie, $3; Weston, $2; Perth, $2; Hespeler, $2; Strathroy, $2; Guelph, $2; Berlin $4; Whitby, $2; Cardinal, $2; Picton, $2; Chesterville, $2; Fort William, $2; Grimsby, $2; Oakville, $2; Peterboro, $4.	
Total	$142 00
Interest	1 00
	$237 73

Expenditures

Rev. A. H. Scott, expenses, American Civic Association Convention	$25 00
W. B. Burgoyne, expenses, American Civic Association Convention	20 00
Honorarium to Secretary	50 00
Stenographer	5 00
Affiliation fee American Civic Association	5 00
Exchange	1 95
Balance on hand	130 78
	$237 73

Certified correct,

H. B. Cowan, *Treasurer*
E. Edmund Starr, *Auditor.*

November 20th, 1913.

ONTARIO HORTICULTURAL ASSOCIATION

The Eighth Annual Convention of the Ontario Horticultural Association was held in the Parliament Buildings, Toronto, on Thursday and Friday, Nov. 20th and 21st, 1913. Delegates were present from all parts of the Province and took a keen interest in the proceedings and discussions.

PRESIDENT'S ADDRESS.

Rev. A. H. Scott, M.A.

It is with no little interest and satisfaction that I invite you to join me in the opening of the Eighth Annual Convention of the Ontario Horticultural Association.

With my first opportunity to address you in public gathering, officially, I invited you twelve months ago to consider with me "The Evolution of the Horticultural Idea." I am sensible of the courtesy proffered by the delegates a year ago through which I am expected and privileged to address you this morning. Without further preliminary let us consider for a few minutes some things that rise before our attention through the subject which I have chosen to designate "The Livability and the Visibility of Horticulture."

The Livability of Horticulture.—You may not find the word Livability in your dictionary, but the root meaning is easy of understanding. Some one says that, next to Love, Life is the greatest word in the language. The root word here is life; and the consideration in which you are now being invited to share relates to the power which life in the soil possesses to bring blessing to man.

One man of science makes an ambitious attempt to define life by telling us that it is "The continuous adjustment of internal relations to external relations." Another's definition is "the twofold internal movement of composition and decomposition at once general and continuous." Probably you may regard these two modern definitions of life as scarcely clearer than that of Aristotle, who wrote that "life is the assemblage of the operations of nutrition, growth, and destruction."

Life is a thing that no man yet has been able satisfactorily to define. What life does we know well, even though what life is we know not. Life began in a garden. The first service to which human life was directed was horticulture. The most historic employment of man was gardening; and the second man was a gardener. As long as he kept in the right way he shared with his father in the honourable occupation. But as soon as he began to go wrong he went into other employment.

The sons of the soil are the founders of civilization. Those notable in history are the men and women whose intelligence begets appreciation of a piece of land. "They who labor in the earth are the chosen people of God." "It is not known where he that invented the plow was born, nor where he died: yet he has effected more for the happiness of the world than the whole race of heroes and of conquerors who have drenched it with tears and fertilized it with blood, and whose birth, parentage and education have been handed down to us with a precision exactly proportionate to the mischief they have done."

Two out of the four branches into which horticulture is scientifically divided have life in them. The one which comprises fruit and the other which includes vegetables, pomology and olericulture are at the basis of the country's health and welfare. "In the age of acorns, antecedent to ceres, and the royal plowman Tripolemus, a single barley-corn had been of more value to mankind than all the diamonds that glowed in the mines of India." Xenophon tells us, from the days of long ago, that this business of the soil is for honorable and high-minded men—the best of all occupations, the acme of all arts. It is distressing to see any son of the soil in our day estimating himself the yellow dog behind the wagon. And it makes the knowing sick to hear the possessor of a fine piece of land talking as if he were a minor factor in the business of the nation. One of Great Britain's Prime Ministers declares that in a moral point of view the life of the soil tiller is the most pure and holy of any class of men. "Pure, because it is the most healthful, and vice can hardly find time to contaminate it; and holy because it brings the Deity perpetually before his view, giving him thereby the most exalted notions of supreme power, and the most fascinating and endearing view of moral benignity."

Britain's sons in this Canada of ours, men and women in the premier business of the New World, ladies and gentlemen, in convention, from the banner Province of our Canadian Federation, let us lift up a testimony to the life of the horticultural calling. Under these suns that shine down so healthfully from the heavens, and after these frosts that permeate and pulverize the soil as no artificial implement can prepare it, go on and tickle earth with your hoe, and earth will make you laugh with her harvest.

Achievements! The greatest achievement the world has yet chronicled was an achievement in a garden. Take those who have been before us, take those who now live and move and have our being, and name that thing that has stalked through every quarter and would never listen to no for an answer. Think of that enemy that even now is plotting to lay hold of the implements of our calling and the weapons of our welfare. Stand still and consider the mighty victories of death. But when you have pondered that a while look over there to the place where they laid our Lord. And when you behold the empty place and catch the angel's meaning of resurrection you have the highest conception of the livability of the garden. Now it is the charm of horticulture, and the glory of the one who commands large fields or cultivates small gardens that with us, in all life's operations, is the One thus brought to our notice in the most brilliant preface in all literature, "In Him was life, and the life was the light of men."

The Visibility of Horticulture.—The lexiographers are clear upon the word visibility. It has as its root words view, outlook, vision.

Visibility is linked to livability, just as life is what we make of it according to the eye through which we look at it.

You say to the countryman: "How beautiful the country is when the red berries so thickly stud the hedge." If he answers: "Beautiful enough, but it is no pleasant sight for us poor folk; it means that we shall have a hard winter," then we read the relation of the individual to the coloring of life. The kind of life has much to do in forming our vision. If associated with the livability of Horticulture are the two scientific branches that treat, the one of fruits, and the other of vegetables, here now with the visibility of horticulture we have the two other branches which the eye is more particularly concerned with, Floriculture with its

wealth and variety of flower, and nature architecture with its glory in God's great out-of-door.

In reckoning the points of value in a possession, so many things come into the consideration, the air and the water, the access and the exit, the environment and the adjoinment, and other things as the situation calls for them, but the visibility of horticulture calls for proper attention to the vista. What lines of sight are most effective at your residence? What features can be displayed to advantage as you work them into the picture of your property? What grouping will hide that incongruous condition in your environment? What decay can you cut away, what hill can you expose, what verdure can you bring into the picture so that your surroundings will be beautiful? The landscape gardening that makes us

Lilies of the Valley.

admire the beautiful and that works us into better men, that comes with the purview of the visibility of horticulture.

Hibernian wit suggests how visibility in horticulture spells honesty and friendliness between the near and the farther away. With one part and some other part, as with one person and another person, there is sometimes disunion. Two men who met on a bridge shook hands, and they realized immediately that they were strangers. "It's queer," said the clever son of Erin, "when we were far off I thought it was you, and you thought it was me; and now we're together its neither of us." So in that spot of yours or mine that is seen from the place far off, is there was we know could be seen if the onlooker had his position nearby? The moral lies here, that friendliness should mark all adjustments in the work, and the index of taste and honesty is found in the condition of the backyard as well as in the paint on the front verandah.

I would like to see in this Province of Ontario what Ambassador Bryce recommended to the friends of Civic Improvement in Baltimore: "More great parks in the land." We have our Algonquin to the north of us, why not have half a dozen more, and an additional score for the Dominion? I want to see the loftiest

ambitions of the best man realized in the new civic proposals at Ottawa. I want to see my friends in the country and in the town taking in from their poultry houses and their gardens these productions which when plucked and prepared will be cooked as well and taste as well on our tables as what the chefs send to the tables at the best hotels of this city, New York or London. I would like to see the old settler of Ontario prosperous, and the new comers to Canada vastly improved in their circumstances. But what would please me more, and what the visibility of honest horticulture may help to bring about, would be for Canada what the editor of the *Wall Street Journal* craves for America: "More than railway extension, and Western irrigation, and the low tariff, and a bigger wheat crop, and a new merchant marine, and a new navy, is a revival of piety—the kind mother and father used to have—piety that counted it good business to stop for daily family prayer before breakfast right in the middle of the harvest; that quit field work a half hour earlier Thursday night so as to get the chores done to go to prayer meeting: that borrowed money to pay the preacher's salary and prayed fervently in secret for the salvation of the rich man who looked with scorn on such business-like behavior. That's what we need now to clean this country of the filth of graft, and of greed petty and big: of worship of fine houses and big lands, and high office, and grand social functions. What is this thing we are worshipping but a vain repetition of what decayed nations fell down and worshipped before their light went out? Read the history of Rome in decay, and you will find luxury there that could lay a big dollar over our little doughnut that looks so large to us. Great wealth never made a nation substantial or honorable. There is nothing on earth that looks good that is so dangerous for a man or a nation to handle as quick, easy money. If *you* do not resist its deadly influence, the chances are that it will get your son. It takes greater and finer heroism to dare to be poor in America than to charge an earthworks in Manchuria."

The visibility of horticulture looks on the day when this old sin-cursed earth of ours will be more of a garden than it is at present. All great people realize that in a real sense we are in a state of confinement and thraldom now, and, at the same time, that there is a day of largeness and liberty and light approaching. Some men's expectations may be of mischief and some men's foresight may be of foreboding, but the faith of the true horticulturist, like that of the man of well-grounded hope, is ever facing forward, and cheering man with the vision of the future. Such men do us good. And if we are of that faith we do others good. The man of hope is like the hickory, he will never snap. Bend him, put on the strain, but remove the pressure and he will spring back again. To the delights of true expectation the visibility of this morning is encouraging.

The scene down here is shaping for a coming change. In the coming time "In the wilderness shall waters break out, and streams in the desert. And the parched ground shall become a pool, and the thirsty land springs of water." "The desert shall rejoice and blossom as the rose." "The mountains and the hills shall break forth into singing, and all the trees in the fields shall clap their hands."

I am very pleased to state that sixty-three societies have paid their affiliation fees; it is the best showing we have ever had in the history of the Association.

H. B. Cowan: I have a statement to make in connection with the horticultural press, and what I say I am saying not only for my own publications, but also for others. There is a proposal on the part of Government to change the basis of postal rates on publications in Canada. It seems to be quite evident that the Government does not understand the importance of the work done by the agricul-

Alma College Grounds, St. Thomas.

tural and horticultural papers, because the recommendations, if carried into effect, will be a very serious discrimination against that class of publication. The trade class section met yesterday, and the Canadian Press Association meets to-day; the proposal is to give some a free zone that have a local circulation and extend it to us, but ours is national, and we would have a very heavy tax placed upon us. The Department claims that the railways are overloaded with mail matter and the regulations will put some out of existence. This is serious, so we desire to have a resolution passed simply bearing testimony on the part of the Association to the value of the educational work done by that class of publication.

Moved by the Rev. G. W. Tebbs, seconded by J. H. Bennett: "We, the members of the Ontario Horticultural Association, having heard reports that it is proposed by the Post Office Department to make changes in the postal rules that will have an injurious effect against the agricultural and horticultural press desire to express our belief in the value of these mediums, and the opinion that the agricultural and horticultural press of Canada has possibly done more to benefit the farmers and fruit growers of Canada than any other factor. Furthermore, we would venture to express the hope that in any regulations that may be enacted by the Government, the postal rates granted to the agricultural and horticultural press shall be as favourable as those granted to any newspaper or other class of publication. And, furthermore, that any postal regulation that would tend to confine the circulation of these papers, which are provincial and national in character, to local fields would in our opinion be detrimental to our people and to that of farmers and fruit growers in general throughout Canada."—Carried.

REPORT OF SUPERINTENDENT.

J. Lockie Wilson, Toronto.

I am sure you are delighted with the splendid address of our President. Its high, lofty tone was admirable, and we now understand why his parishioners in the town of Perth presented him with several hundred dollars in gold after thirty-five years of faithful service. This is an honour, not only to him, but to this association over which he is the presiding officer.

The new Act regulating horticultural societies and establishing them as a separate entity became law in 1906, and in the seven short years we have worked together a good deal has been accomplished. But there remains much yet to do. Opportunities arise on every hand for our members in every hamlet, town and city in Ontario, and if each one of that army of 14,000 men and women who are enrolled with us would do even a little in encouraging a neighbour to become imbued with the spirit of the beautification of home and city surroundings, if only to the extent of planting a shrub, vine or flower, what a transformation would take place in the homes of our citizens, and gladness would fill the hearts of even the strangers temporarily within our gates! We have some members in our association who imagine that when the membership fee is paid they have done their part, and are not interested enough to attend an annual meeting to discover how the Society's money has been expended, or give a word of encouragement to those who are doing their part in furthering the interests of our Association. I would urgently recommend that societies take more care in the selection of their officers

and directors. We have plenty of men in this Province who are willing to accept the honors of office, but who hate work. These are the kind of officials not to have. There should be no slipping backward in either the number of members or the work done in each succeeding year. If a board of directors at the close of the year report no increase in membership and no larger expenditure than the previous year, that society has already begun its backward journey, and the signal has been hoisted that a more energetic board must replace those who are satisfied to leave things as they are. The satisfied man or woman is absolutely no use in an organization such as ours, and the directors who make a spurt for a few days before the annual meeting to collect the membership fees are little better than

Arbor Vitæ Hedge.

those who do nothing at all. The time to commence work is immediately after the annual meeting, when definite plans should be arranged for the work of the year, and after these have been formulated an earnest endeavor should be made to have them carried out.

The following societies have failed to make the returns required by the Act, and have, consequently, gone out of existence: Cayuga, Elora, Milton, St. Mary's, Simcoe and Sudbury. There must be something materially wrong in the above mentioned places when the citizens thereof deliberately turn back the hands of the clock. In the cases of Milton and Sudbury, the societies have intimated that they intend to reorganize. The Simcoe Society goes out of business with a balance on hand of nearly $100. Under ordinary circumstances this money would be handed over to the Government, but I have intimated to the secretary that he may hold this balance in the meantime, believing that the citizens of that thriving town,

one of whom has done so much for the improvement of one particular flower, the gladiolus, will turn from the error of their ways and again become members in good standing in our Association. Surely it cannot be a fact that there is no room for a civic improvement organization in the town of Simcoe.

New societies have been organized in Dundalk, High Park and Paris with substantial and energetic membership.

I have received complaints from Toronto and High Park Societies with reference to the change in the Act limiting their maximum grant to $500, while that to all other societies in the Province is $800. I may state that few societies are doing better work than those who claim to be discriminated against under the new Act. The Toronto Society has, in the past, been exceedingly generous to the others in the Province, and has offered silver and bronze medals for herbaceous perennials shown at the different horticultural exhibitions.

The Legislative grants in 1913 were apportioned on the following basis: Membership 38c. and expenditure 30c.

For a number of years complaint has been made to the Department that the smaller unincorporated villages were unable under the Act to organize horticultural societies. Arrangements were made to have the Act amended at the last session of the Legislature, which was done, and now societies can organize in police villages having a population of not less than 500.

The offer made by the Executive of the Ontario Plowmen' Association to plow a number of vacant lots in Toronto for the use of those who had no land to cultivate was accepted by the Citizens and Play Grounds Committee, and a large number of plowmen came in with their teams and plows and did their part of the work to the satisfaction of all concerned. I have not had a report from the committee as to the resulting benefits, but expect one later on. Sir Henry Pellatt and Mrs. Allan Baines kindly supplied a large quantity of plants and shrubs, which were distributed to school children by Dr. James L. Hughes.

While speaking of horticultural improvements it will not be out of place for me to refer to the work done by Park Commissioner Chambers in the different parts of this city, more especially in Queen's and Exhibition Parks. It has been stated by those who are qualified to judge that those beauty spots never looked so well as they did this year.

The growing towns of Ontario should profit by the error of town-planners in the past, and at once procure ample breathing spaces for their citizens and spacious playgrounds for the children. No better investment could possibly be made than these, and future generations will rise up and bless the men who do it.

It is pleasing to note that many of the railways on this continent are beginning to appreciate the value of bright, clean, decent stations and station grounds, and some of these corporations are offering prizes to the station agents who keep their premises in the best possible shape. Green grass, vines, and flowers add materially to the pleasure of travellers when they disembark from the trains. There are many stations in the towns and villages of Ontario which are a disgrace, not only to the railway companies but to the citizens who reside therein. How many of the delegates attending this convention know of railway stations in their localities where the paint brush has seldom been used, and which are neither a thing of beauty nor a joy to the travelling public! The influence of our members with the railway companies and station agents in the localities, if properly applied, will remove the grievance. In England, Scotland, and Ireland great pride is

taken by railway corporations and their employees in beautifying not only the station and grounds, but the homes of the employees as well. Let us follow the example of the motherland in this regard, and the inaugurators of similar improvements here will not have lived in vain.

Writing on this subject in the "American City," Mr. J. Horace McFarland, President of the American Civic Association, says in part:—

"It will be found that whenever a railway begins to clean up, and then to 'green up' about its station its employees do likewise. Always they are interested. Nearly always they are helpful. Frequently they do civic things at home. One switchman along a great railroad secured permission to bring good earth and establish little beds north and south of his switch shanty, in which he put the product of a five-cent packet of portulaca. The situation was one of great heat, and the portulaca flourished amazingly. There was a splendid flash of color as one passed on the trains. Investigation showed that this man had later given away hundreds of packets of portulaca seeds to his neighbors, and that a whole vicinity had been started in flower-loving through his action.

"Summing up the whole matter, I propose, then, first, that the stations themselves shall be improved into convenience, courtesy and availability inside; that the colors with which they are painted shall be harmonious and relatively inconspicuous; that the planting, aside from the universal grass which helps so much in most cases, shall include, if possible, shrubs, plants, and possibly trees common to the neighborhood, and that this planting should be as nearly as possible of what may be called the naturalistic character.

"I protest against the so-called 'flower beds.' Many a beautiful lawn has been made ineffective through an expensive, tortured combination worked as a wiggle, an anchor, a wheel or some other unsuited form, into its grassy surface.

"All these flower-bed abominations are relics of the recent dark ages of decoration.

"The planting that gives a restful feeling, that gives double the effect of distance and space on the grounds, is the group planting, usually treated as a background, with irregular edges, involving, as I have said, the shrubs and plants of the neighborhood. Such planting should look as if it had happened along the roadside of a lovely valley or mountain highway, I have seen miles, yes, hundreds of miles, of God's planting of this sort which would enrapture travellers if it might have been transplanted in small sections to the vicinity of scores of railroad stations.

"If there is ever any doubt about how best to plan the suggested planting of railroad station surroundings, let the investigator go to the nearest woodland, and on its edges he will almost inevitably see a reasonably perfect example.

"I have seen very few herbaceous plants used about railroad stations. Iris, asters, delphiniums, phlox and other more vigorous subjects could well serve as an adjunct to the shrub planting, and I sincerely trust that those who undertake to persuade railroads to improve, and who make the undertaking more concrete and helpful by direct and detailed suggestions, will see the wisdom of availing themselves not only of the native and near-by things, but of the wide variety of splendid herbaceous plants, satisfactory, economical and delightful, found in this country. It might sometimes prove practicable to propose to a railroad that if it would do the lawn-making, a community or civic body would supply the planting of native and characteristic shrubs, upon a carefully considered plan."

According to the press of the city of Toronto, the Trustees of the Public Schools refused the request of the President, R. J. Fleming, to give the children a half-holiday during the Horticultural Exhibition this week. It strikes me that Toronto needs some new blood among these trustees. In this age when efforts are being made on every hand to inculcate into the children's mind a love of shrubs, trees, plants and flowers, when the leading men are asking that horticulture be taught in the schools, when the Department of Education is paying premiums to teachers who take a course in horticulture, the benighted Governors of Toronto schools are unwilling that the children of the city should see at first hand the beauties of the finest Horticultural Exhibition which has ever been held in this city.

I have again requested the societies to send a short report of work of in-

terest undertaken by them during the year. I have made a condensed report of same, which I will now give you. This short synopsis of the work done by the societies which have reported will not interfere with any reports which District Directors or delegates wish to make with regard to the work in their sections.

Synopsis of Reports from Societies.

Hespeler: Membership increased 20 per cent. Members received seeds, plants and bulbs.

Clinton: Good progress in civic improvement and general interest taken by public. Membership 34 per cent. greater than in 1912. In centre of business

Northern Ontario—Haileybury.

section of town where six streets radiate, the barren places have been turned into lawns with beds of cannas and calladiums, and merchants whose business places adjoined this section undertook the care of them with great success through an abnormally dry season. In the fall of 1912 prizes were offered for the best bed of tulips, and many of unusual excellence were judged last spring. The flower show held in September was very successful. The campaign against bill-boards and like nuisances has ended, because no one now will permit anything of this sort. Owing to weather conditions the programme of civic improvement mapped out this fall had to be abandoned.

Perth: This society had the largest membership in its history, 266 as compared with 180 the year previous. Through its efforts members were enlisted in many of the adjoining towns and villages, as well as in the country homes near

Perth. Over 600 packages of flower seeds were distributed to school children, and, as a result, there was a fine display of flowers at the show, which was the first held by the society. It will be an annual event, owing to the encouraging results obtained.

WALKERVILLE: This society has increased its membership from 263 to 315. There were distributed to members 76 clematis, 160 hybrid perennial, 180 hybrid teas, 84 climbing, and 140 baby rambler roses, as well as 340 shrubs and 160 pæonies. In addition, the following were planted in public parks and places: 350 petunias, 450 phlox, 100 sweet alyssum, 108 lobelia, 200 flowering vincas, 190 cannas, 216 salvias, 121 coleus, 30 ageratum, and 300 alternantheia. This fall were distributed 65 Boston ferns, 125 palms, 450 hyacinths, 4,000 tulips, 375 Narcissi, and in the beds in town 6,800 tulips of good variety were planted.

PETERBOROUGH: Membership shows gain of 40, and the 500 mark will be reached in 1914. Fifteen option allowed members in the spring, and this fall each member received 6 hyacinths, 6 narcissi, and 6 daffodils. The annual Lawn and Garden Competition developed some excellent ideas in beautifying home surroundings. The two central city parks were also looked after.

BARRIE: Membership reached almost 300, a large increase on the previous year. Prizes were offered again for lawns and gardens and for flower beds and window boxes. Those for best kept premises were divided into three classes, for property assessed at $1,200 and under, for that over $1,200 and up to $2,400, and for that over $2,400. This enables the small property owners to compete on fair terms. An excellent flower show was held on September 5th and will be repeated in 1914. Members had a choice of ten options of bulbs and plants.

MILLBROOK: Plants and bulbs were distributed to members. Membership increased to 75.

STRATFORD: Large increase in membership from 104 to 187. Civic improvement undertaken was cleaning unkept street corners and planting in flower beds. The City Council increased the grant to the society from $25 to $100. Flower beds were placed on each side of the main entrance to the City Hall. The flower shows were held in large store windows and in the Market House, three prizes being given in each class, consisting of bulbs, shrubs and seeds. In June, roses, iris and pæonies were shown; in July, sweet peas; and in September, asters and zinnias and salpiglossis for school children only. The citizens are taking great interest in the work and many flower beds have been set out in front of the houses.

GUELPH: This society had a most successful year. Early in the spring Mr. McCulloch of Hamilton delivered a lecture on an "Amateur's Garden" to a large audience. School children were interested by the distribution in the High School grades of 700 packages of seed, and a Junior Branch was established with a membership of over 100. The fee for this is 25c. School gardens have also been encouraged with good results, and many fine specimens from same were exhibited at a summer flower show and a fall fair. All senior members received spring and fall options. Window boxes were supplied to public buildings, and at a summer flower, fruit and vegetable show the entries were very numerous. Mr. Collins of Toronto acting as judge. Three prizes were given in each ward for the best planted and kept lawns, flower gardens and boulevards. Keen interest was taken in these competitions. Six prizes were awarded for the best vegetable gardens in the city. The membership has grown from 163 to 216 and will be further increased this year.

CALEDONIA: This society has bought, planted and cared for over 100 trees in the town, principally Manitoba maples. Citizens have been encouraged to beautify their properties. Seeds have been distributed to school children. A very successful flower show was held. It had been the intention of the society to interest the rural schools, but this had to be laid over for another year.

GODERICH: Membership this year 112, last year 91. Seven public meetings held during the fall and winter months for the discussion of the cultivation of flowers and small fruits. These were well attended. Each member received three pæony roots. Shrubs were planted in the central parks. More attention is being paid to lawns and gardens by citizens.

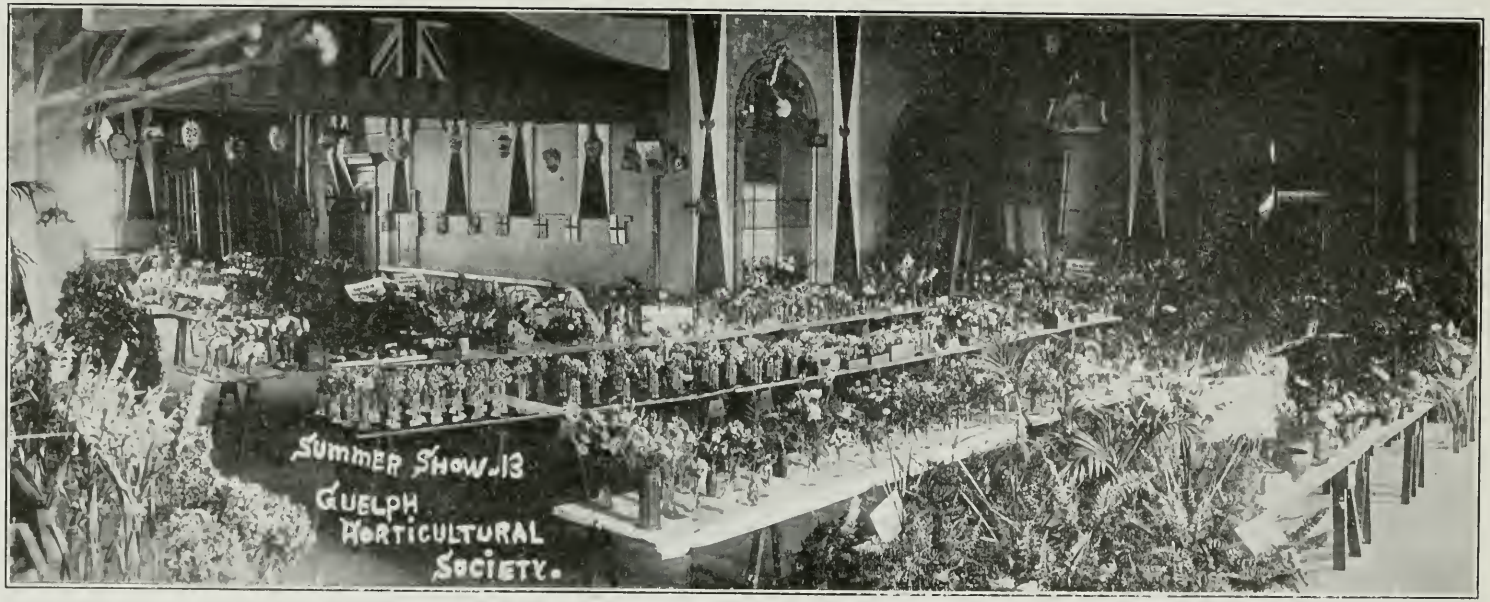
WINCHESTER: Civic improvement in evidence everywhere since the society was organized. Special attention given to school and church grounds, also attractive flower boxes placed in all public windows and trees set out. One thousand two hundred mixed bulbs direct from Holland were presented to school children to be planted in school grounds. Municipal Council and School Board donated $25 each for the work. Meetings are held regularly and great interest shown.

SANDWICH: Thirty-two flower beds planted on prominent street corners and in front of Court House, churches, schools and other public buildings. Membership is 100.

ST. THOMAS: Membership has more than doubled, now totalling 706. Fifty-five flower beds were planted throughout the city, over three times as many as in 1912. Planted and took charge of flower beds in front of City Hall, Public Library and Post Office. Sixteen thousand tulip bulbs planted in public beds and given as premiums as against 4,200 last year. Fifty thousand bulbs have been imported from Holland for members to plant this fall. Four flower shows held last summer for tulip and spring flowers, for pæonies and roses, for gladioli, and for asters and fall flowers. At the last named there were 500 entries. The flowers from these shows were distributed among sick and aged persons, over one thousand bouquets having been disposed of during 1913. Entries for lawn and garden competition increased from 123 to over 200. Several new classes were added for school children's gardens, factory lawns and flower beds. The Board of Trade gave a $50 cup for the competition in factory lawns, etc., the cup to be won three times. The winner this year was the Pere Marquette Railway. Large sums have been spent by factories and railway shops this year for bulbs and shrubs in order to compete for the cup in 1914. The city built a municipal greenhouse for supplying flowers to parks and public squares free. Street Improvement Associations have been formed by residents on several streets. On Wilson Avenue, the main road to the large park of eighty acres, liberal sums have been donated by residents and others and a concrete roadway is being constructed on either side of a boulevard which runs down the centre of the entire street. Sixteen options have been given to members for 1914 in place of one. The membership list for 1914 has already reached the 1,000 mark owing to the good results obtained by the society.

PORT DOVER: Has had a very good year. Held a fruit, flower and vegetable show and distributed 100 packages of seed to school children. Members received 50 cents' worth of nursery stock. Membership increased to 94.

WHITBY: Society increased in membership by 25 per cent. and the Council were interested in fixing up the beds in one of the parks, the society supplying the plants for them. The general appearance of the town has also been much improved through the individual efforts of members. During the winter an illustrated lecture was given by Mr. William Hunt of the O.A.C. on "Flower Culture


SUMMER SHOW 13
GUELPH
HORTICULTURAL
SOCIETY.

for Amateurs." In spring, aster seed and bantam corn seed were distributed to the children and the results were exhibited at a flower show in the Town Hall where there were 200 competitors, the Mayor declaring a half-holiday. The Vegetable Garden Contest was very much more keenly contested than formerly. At the annual flower show the display of hardy herbaceous perennials for the Toronto Horticultural Society's medals showed that the culture of these permanent plants was increasing very much here. The prizes for the school children were hyacinths. Bulbs were distributed to members this fall.

Amherstburg: More civic improvement work done than ever before, a boulevard being built on Laird Avenue and shrubs and flowers planted thereon. The town council co-operated with the society.

Simcoe: Trees, plants, bulbs and seeds distributed to members, and seeds to public school children.

Paris: Membership is 107. Members received flowering shrubs, perennials, dahlias and gladioli. Annuals were also distributed. Flower beds were planted and maintained at two public schools and in the cemetery, 150 cannas and geranium and other border plants being used. Twenty-three flowering shrubs were planted in school grounds. Spraying was done for members, who paid for time and material used.

Ottawa: Two Exhibitions held, one in June for pæonies and roses, and the other in August. A garden Competition was held for the first time, with three classes: (1) For the best and most artistically arranged garden as seen from the street, open to lots not exceeding 66 x 99 feet. (2) For verandah effect. (3) For best flower box not exceeding five feet in length. Points for judging were: Arrangement and artistic effect, 50; neatness and cultivation, 25; floral display, 15; quality and variety of plants, 10. Each exhibit was examined once during June, July, August, and September. There were 175 entries, and, in class (1), the first prize winner scored 391 1-3 points out of a possible 400. Membership increased by 121 to 528.

Hanover: Every member received bulbs and plants. Civic improvement has also been carried on, trees having been planted, the cemetery improved, and the Town Hall and Public Library grounds beautified, as well as those of the two railway stations.

Kingsville: Members had ten options on plants and bulbs. Several beds of cannas, geraniums, salvia, coleus and other plants were set out in public places and made a splendid display. Eight thousand bulbs have been distributed to members this fall.

Owen Sound: Membership more than doubled, is now 196. Six meetings held and addresses given by Professor McCready and others. Exhibition of flowers, fruit and vegetables held on August 26th and 27th, when Mr. Hunt judged. Increase in membership is due to systematic canvass by Directors and others.

Brantford: Distributed bulbs and shrubs to members. Prizes were given to lawns and gardens. Membership almost doubled.

Kingston: Membership showed slight increase. Annual Exhibition held in September for two days and nights. This has raised the standard of vegetables, fruit and flowers in this District, and the Society is liberally supported by the citizens.

Fort William: Members had a choice of five premiums, (1) Annuals, (2) Bedding plants, (3) Perennials, (4) Summer flowering bulbs, (5) Winter bulbs. The Society centred its efforts on a flower show, which was a great success. A

silver medal offered by the Toronto Horticultural Society was won by Mr. Geo. Woodrow, and the bronze by Mr. Geo. H. Coo.

WALKERTON: A Flower Show was held on August 21st at which prizes were offered for annuals, perennials, window boxes and hanging baskets, and silver and bronze medals for best collection of herbaceous perennials. Members had options on bulbs and plants in the Fall, and in the Spring a distribution of seeds, bulbs and plants was made. A sum of $25 was set apart for levelling and beautifying the grounds around the Carnegie Library.

BERLIN: The Annual Exhibition on August 27th and 28th was a great success. Prizes amounting to $369 were awarded. Spring and Fall premiums were received by members. A lecture was given by Mr. Hunt early in the Spring, and the Directors visited the members' gardens and made suggestions for improvement.

Paeonies.

LINDSAY: Membership increased. More plants distributed than in the previous year.

PORT HOPE: Bulbs, shrubs, annuals and perennials distributed to members. A flower bed was also put on the Town Hall lawn.

THORNBURY: One school section accepted Society's offer to improve their grounds, and over two hundred shrubs and plants were set out, and we expect others to come in next year.

BOWMANVILLE: Increase of membership. Hyacinth bulbs distributed to members, who were asked to keep a careful record as to results. A donation of shrubs was made to the new hospital, and flower boxes were placed in the Post Office and Customs House windows by the Government as the result of correspondence with them.

Belleville: School children were given seeds, public parks ornamented and window boxes placed in public schools.

Napanee: Seeds and bulbs were donated to each member, and the care of the Central Park is undertaken by the Society, on which considerable money is spent. Public buildings are beautified and encouragement given to maintaining flower beds in the cemetery, church and school grounds, and shrubs and bulbs are donated for that purpose. Horticultural periodicals are also distributed to members, and a general improvement in lawns and grounds is visible.

Picton: Membership increased. Annual donation is made for care of grounds of the Public Library. Members receive plants and bulbs in the Spring and Fall.

Mitchell: Good work being done in educating the citizens in the beautifying of their homes. The Society provides plants and cares for flower beds at the Library, the Post Office and the Power House. A gift of $1,000 has been made by one of our directors towards laying out Ford Park. Of the two medals offered by the Toronto Horticultural Society, the silver was won by the President. The bronze was not awarded owing to lack of competition on account of dry weather.

Tillsonburg: The Society assumed the charge of the Public Park and beds in front of the Opera House and Council Chamber, and planted them with flowers. The two latter buildings were also adorned with window boxes. A Spring show of tulips, narcissi, hyacinths and other bulbs was held, also a rose and pæony show, a sweet-pea show, and a general flower show on August 29th. Four hundred packages of flower seeds were distributed to selected school children who exhibited plants at the August show. Wild flowers were also exhibited by the children. Garden competitions were held, and silver and bronze medals were awarded for same. Since the Society was started there has been a very noticeable improvement in the residential sections, well kept lawns now being the rule. Membership shows a great increase. Meetings will be held this winter and practical addresses given by well-known specialists.

Waterloo: Cherry, pear, plum and apple trees, rose bushes, hydrangeas, gladioli, tulips and hyacinth bulbs were given to the members as premiums. Three flower beds were planted in the town square. Lectures will be given and a show held in 1914.

Elmira: Membership shows increase. Seventeen options offered to members, consisting of 70 distinct varieties of shrubs, hardy plants and bulbs. 101 shrubs, 35 vines, 225 hardy plants and 4,000 bulbs distributed to members. Civic Improvement work extended, two parks being planted by the Society, as well as flower beds on other civic property. The Annual Flower Show and Annual Competition was up to the usual mark in quality. Seven hundred gladioli bulbs distributed to school children at nominal price of one cent each, and cash and bulb prizes awarded the children at the flower show.

Windsor: The Society placed five thousand plants on street corners and twenty-five thousand tulips this Fall. Street corners were improved by building concrete coping round same. Joint meetings of the Society and the school board will be held this winter and plans formulated for next season's work. Seeds will be furnished school children.

Weston: Membership 131, as compared with 113 in 1912; expenditure also largely increased. Members had a choice of three premiums in roses, pæonies and cacti, dahlias and gladioli, and also received bulbs of hyacinths, tulips and daffodils this fall. Good prizes were offered for best-kept lawns, flower beds, verandah boxes and general home surroundings, for which there was keen competition; also

for cut flowers and potted plants. Two prizes were offered for the best-kept working-man's garden. Monthly meetings have been held during the year, which have been very well attended. The aim of the Society is to help members in every possible way to beautify their home surroundings. Success was largely due to the great help given by the local press.

Toronto: At the monthly meetings of the Society addresses and papers were given by Mr. J. M. Bowman, of Elmira, on "Sweet Peas"; by Mr. W. H. Elliott on "Plant Adaptation"; by Mr. L. Caesar, O.A.C., on "Diseases of Fruit Trees"; by Mr. J. W. Potter on "Fall Planting"; and by Mr. Roderick Cameron on "Pruning and Grafting." The Society published its fourth Year Book and sent a copy to each paid member. Four exhibitions were held, with 322 awards in flowers, fruits and vegetables. There were 158 exhibitors, an increase of 25 per cent. over last year, and 517 exhibits, an increase of 10 per cent. over last year; but several of the prize winners of former years with large gardens now enter "not for competition," thus giving the newcomers a chance for the prizes, and thus helping the educative value of the exhibitions.

Owing to the long distances many exhibitors and judges had to come, and the difficulty of getting the exhibits on the table and judged before the hour for opening the exhibitions, the ladies of the Society served tea at the exhibition hall to the committee and judges.

The street improvement competitions were continued and on some streets were keenly contested. The committee in charge of this, however, has recommended that these prizes next year be donated only to members of the Society, and that the properties be divided into three classes according to frontage, and that both front and back premises be judged.

Great progress was made with the home gardens for children. A folder describing four vegetables and four flowers and explaining how to plant and care for them was distributed in the schools, and the gardens inspected from time to time. To start a knowledge of perennials, gaillardia seed was distributed, but only one pupil had any plants. But we tackle this next year just the same. Eight schools held Fall Fairs, where 266 prizes were awarded to 171 pupils. A splendid Fair was also held by a school just outside the city, where prizes donated by the the Society were awarded.

There were keen competitions for the prizes for working-men's gardens. The usual donations to Missions and Hospital Grounds were given.

High Park (Toronto): This Society began operations this year and now has a membership of 135, having grown out of the Horticultural Department of the High Park Ratepayers' Association.

During the season two exhibitions were held that were largely attended, the children making a fine show in the Vegetable Department. At the distribution of prizes, Mr. Chas. E. Chambers, Parks Commissioner, announced that he would try some special boulevard planting in the High Park District, which was heartily endorsed by the Society.

Successful competitions in planting and beautifying of home premises were held, the shield trophies being awarded in two classes, to those who kept gardeners and to those who did all the work themselves.

Brampton: Much benefit derived from a circular sent out last winter explaining the objects of the Brampton Society. Membership is now up to 200, and a large increase expected next year. In Spring each member was given one ounce of nasturtium seed, one ounce of sweet-pea seed, one shrub (Philadelphus grandi-

St. Thomas School.
Twice winner of first prize for best kept school lawn and floral effect.

florus), and five boxes of annuals, each box containing twelve plants. This Autumn each received thirty-one tulips, nine hyacinths, and twenty-four narcissus—sixty-four bulbs in all. The Directors believe in giving members what they think good for them, rather than allowing them to choose from several alternatives. It enables them to import a few good things for the members in large quantities. For the first lawn competition our people did not send in their names as much as they should have. But next year every member will be considered a competitor whether he enters or not. The judges will inspect his place and make recommendations every little while.

Oshawa: This Society is in good financial condition, with membership of 115, which will be augmented largely at once with the enthusiastic Board now in charge. The disappointments of last year may be traced to our sub-committees failing to do their work until too late in the season. This the Directors hope to remedy by starting early this winter and having on hand the seed to be distributed to the children and premiums for members early in the season and in sufficient quantity to meet all demands.

Orangeville: Membership increased by twenty-four. Besides giving premiums, co-operation among members in purchasing seeds, plants, shrubs and trees has been encouraged. In the line of Civic Improvement, five rock cairn beds and seven others from eight to twelve feet in diameter were laid out and planted with assorted foliage plants and flowers on street corners and public grounds, which added greatly to the appearance of the town and created much enthusiasm among citizens. A very successful exhibition was held, at which entries were numerous and of high quality. The Town Council and other institutions co-operated in planting the flower beds in the Spring.

Hamilton: Membership shows a slight increase. Four meetings held during the year which were well attended. Two thousand packages of seeds were given to school children in the Spring, and three prizes awarded to each school in the Fall for exhibits from same, making a total of sixty-three prizes in all. Members received bulbs. Annual Flower Show held in June.

London: Membership last year was 353, and this year 447, an increase of 94 over last year. During the past year the books "Garden Almanac" and "Garden to Bloom" were distributed as premiums, with options on other horticultural literature. Spring premium was composed of twelve choice gladiolus, variety America, and Fall premium was five separate named varieties of German iris. There were two flower shows held, one in June and the other in August. Four lectures were held during the year, addressed by Dr. Bennett, Mr. Hunt, Mr. Gammage and Mr. Dilger. A large quantity of American gladiolus were donated to the different homes in the city, and also to the fire halls; and one hundred sets of seeds to the Aberdeen Society, for distribution in the outlying sections of Canada. A grant of $10 was given to the Western Fair Board to be given as a prize for exhibits of flowers. The Directors covered the whole city and selected the names and addresses of the citizens who had taken a pride in keeping their grounds and gardens in fine condition during the year, and a letter of appreciation was sent to nine hundred different owners. This was found to be very much appreciated by those who received them. It entirely took them by surprise, as they were not expecting any words of encouragement along this line.

This has been the most successful year in our history both in regard to membership and to expenditure for civic improvement, and, in conclusion, I wish to thank the members of the Association for the cordial assistance rendered continu-

ously through the seven years of our existence, and trust that we will all be able to continue our efforts for the benefit of not only ourselves but of each of our neighborhoods. Standing together shoulder to shoulder great things will be accomplished in 1914.

"As the ivy that girdeth the tree-trunk,
This law runneth forward and back:
For the pack is the strength of the wolf,
And the wolf is the strength of the pack."

Mr. Gammage moved that the report be incorporated in the annual report. If that from London were analysed it would show that it was a good business policy to have a good balance in hand. For a number of years we have been increasing

Garden Seat.

our balance a little, and, while it is $100 less than last year, there are reasons why it shows so large a balance. We have increased the grant by $100; there is an increase in membership of 100; we have decreased the amount for premiums considerably and increased what we have given otherwise, so that that increase of about $300 in receipts and decrease of $100 in balance shows that we have expended about $400 more than we did before. We have given to public institutions, such as the Home for Incurables, Old People's Homes, the Salvation Army Rescue Home, the Roman Catholic Orphans' Home, the Fire Department, the Aberdeen Society, and the Western Fair Association, and we are still able to show a balance of $1,200. We distributed to our members twelve American Gladioli, five varieties of iris, and, during the year, five thousand gladioli to schools and other places. We had two flower shows and made no charge for admission, and gave no prizes. Yet we have very good ones, with a very large attendance. We have always followed the policy of not giving prizes to members and exhibitors, and make no charge for admission. You can fill a room three or four times the size of this with tables of exhibits during the two shows of the season.

T. D. Dockray: In the Toronto report it is stated that an attempt was made to encourage school children to grow perennials, and seed was distributed. One child only had a few plants. That does not sound very encouraging. Children do not care to grow anything that does not bloom a few weeks after they plant the seed. But the point is in the next sentence, "We will tackle this problem again all the same."

G. Wright: I am interested in the school children of Toronto, and they wanted to see our flower show this week. I told them how nice it was, but the school trustees will not give them a holiday. It is an education in itself for the children to see our show, even for ten minutes.

Dr. Bennett: One point in the address seems to me wrong, to canvass after the annual meeting. As I understand it, all memberships expire on the 1st November. If you have no members, how can you have an annual meeting? When we had our annual meeting we got busy in October and had five hundred by November. If you wait until Christmas time everybody is hard up: it is cold, and they lose that horticultural feeling.

J. Lockie Wilson: I did not say that canvassing should begin after the annual meeting. I said the time to lay the plans for next year was the morning after the annual meeting.

Alfred Warren: The annual meeting is held in November, and as our membership expires 1st November the annual meeting is thoroughly advertised, at which the Secretary and Treasurer collect one dollar from each member. No member is allowed to vote unless he has paid the membership fee.

A. J. Morgan: One of our London citizens came to me last week and said in regard to the commendatory letters sent that the one he got was the nicest he had ever received. It had compensated him for all his work; that is one of the best things our Society has ever done. The sending of those letters is going to be a help in getting new members. I would recommend that other Societies adopt this plan as a recognition of good work accomplished.

A Member: Is the membership of St. Thomas the largest in Ontario?

J. Lockie Wilson: I sent a letter to all the Societies asking for a statement as to increase or otherwise of memberships. From the reports received, St. Thomas had the highest membership in the Province. I trust, however, that there are others who may have done equally well or even better than St. Thomas's live organization.

Dr. Bennett: We have 708.

W. B. Burgoyne: St. Catharines has 800.

The report of the Superintendent was then adopted.

DISCUSSION.

O. H. B. Brown, Berlin: When first invited to take some active part in the proceedings of this Annual Convention of the Ontario Horticultural Association, I was divided between two inclinations—one, to render in my weak way what assistance I could: the other, to leave the discussion of horticultural topics to those who understand them more thoroughly than I do. In choosing the former course, I must confess a selfish motive as well. I have desired for some time the pleasure and profit which must necessarily result from attendance at a convention of this kind. The invitation of the Superintendent seemed to afford the opportunity desired, so I accepted. I fear, however, that I have little to give, in advance, for the benefit which I shall receive during these sessions.

Any misgivings I may have had, in the first instance, as to my ability to interest this convention to any extent in matters pertaining to horticulture, increased alarmingly when I came to study the proceedings of past conventions, as set forth in the admirable Annual Reports edited by our Superintendent. In these reports I find a history of the Act which regulates our Societies; an account of the work and progress of the Association during the seven or eight years of its existence; numerous practical articles by authorities on the growing of vegetables, plants, fruits and flowers, and methods of combatting their enemies; several most excellent reports on names and novelties, and on the progress of horticulture in the various districts; thoughtful and timely essays and addresses on methods of civic improvement; many and varied plans, all more or less successful, for interesting the boys and girls in having and caring for gardens of their own; and interesting accounts, by those qualified to speak, of parks, gardens and exhibitions, both here and elsewhere; useful tables of information concerning all the societies of our province; in short, a comprehensive and modern encyclopaedia on horticulture and on horticultural societies. In the face of such abundant and reliable information it seemed not only difficult but almost presumptuous, for one of my brief experience in this work, even to suggest that I might break new ground for this convention's good. Perhaps a little stirring about of ground already broken is all I may hope to accomplish. In the first place, referring again to these reports, which, I presume, may be obtained on request, I would say that it pertains very materially to the work of Horticultural Societies that their members, particularly their director members, should be provided with a copy of each report as it is issued. I am not quite decided how the rank and file might be reached successfully and profitably, but the directors ought to be reached personally through the president or the secretary of the individual Society. While many directors may know when and to whom to write for a copy, and do write, many do not know, or, knowing, do not write. I venture to say that, through lack of wise and efficient distribution of these reports, some directors in Ontario, not to mention the mere member, know very little of the Association which meets here in annual convention, less of the valuable work it is doing, and almost nothing of the obligations of their respective local societies to this central body. May I suggest, then, that when the next and succeeding editions of this Annual Report are ready for distribution the Superintendent forward to the Secretary of each society, whether affiliated or not, fifteen or more copies, accompanied by a circular letter calling attention briefly to what he considers especially important matter in that report, and requesting the reading of that letter and the distribution of the booklets at the next meeting of the directors? This suggestion is made on the assumption that the average person is more interested in, and inquisitive about, a report which is placed in his hands by a friend at an opportune time than he is with regard to one which arrives quietly by mail under the guise of a parliamentary record.

Coming back to the obligations of the local society to the Central Association, I would suggest, first, that the Superintendent provide an additional column to one of his appended reports, and head it "Number of Delegates at Provincial Convention" (I notice the earlier reports gave a list of the names of the delegates present); and, second, that an asterisk be placed immediately before the name of each society which has paid its dues for that year, the necessary explanatory note being placed at the foot of the report. Of course, the treasurer's report gives these names also, but the information would be much more effective, in this connection, if the names of both affiliated and non-affiliated appeared on the same page.

Another thing that occurs to me, in considering the mutual relations between this Association and its individual members, is suggested by the first of the list of objects which a horticultural society must observe, if it would fully justify its existence. I refer to the holding of one or more lectures per year on appropriate topics. Of course, the "outside" speaker is usually a greater attraction than the local man, but who is he and where is he to be found? what choice of subjects does he offer? and what expense will his services mean to us? These are queries which must be answered sooner or later, but to whom shall we put them? I recall that the Department of Education publishes a circular which it places, early in the school year, in the hands of each County Teachers' Association secretary, and this provides him (1) with a list of the names of all available lecturers on educational topics,

Bunch of Bananas in Greenhouse, O. A. C., Guelph. Weight when ripe, 68 lbs.

(2) with the topics upon which each is prepared to speak at both day and evening sessions, (3) with approximate dates when each speaker will be available, and (4) with information as to what expense the local association may expect to meet—usually travelling expenses only. I believe the Department of Agriculture would be doing a good service for this and kindred societies were it to authorize the preparation of a similar circular and the placing of it in the hands of all the local secretaries for their use and information. Such information, coming from headquarters, would be very acceptable to me just now, as president of the Berlin society, for my knowledge of and acquaintance with available men for the purpose mentioned is quite limited. And yet I am confident, from what I glean from our own reports and our *Canadian Horticulturist*, that we have an ample corps of experienced and entertaining lecturers, who would gladly assist any local society requesting their services. I noticed in my reading, that one past-president of this Asso-

ciation regretted, at the close of his term of office, that societies had not made greater use of him. The neglect was clearly not his, neither could it be fairly laid at the door of the societies who did not use him. An announcement circular would have advised societies of this and other privileges which might have been theirs for the asking.

It is, I think, pretty generally admitted that one of the chief objects of any society is to interest in horticulture the boys and the girls within its precincts. I find that ways and means have been discussed, and sometimes to considerable length, at each annual meeting, and will be again to-day, and that each society with which I have any acquaintance has, in its own way, tried to solve the problem as it found it; but I cannot find, to my surprise, that the Act promises any assistance or offers any encouragement to this department of the work, or that it even recognizes such work, as part of the work of a society, except possibly by inference. As the Act stands, no person under eighteen years of age may vote, and yet there is no provision for any lower or limited membership fee. Assuming, then, (1) that juveniles ought to be admitted to a limited membership, (2) that a fee, but a small one, is desirable in order to insure as far as possible an interest in the work of the society, and (3) that school boards and boards of education ought to (and do, in many instances) grant both moral and financial support to the scheme of home gardens for children, where they do not themselves take up the scheme of school gardens, why not insert a new section in the Act, setting forth a basis of organization, an outline of procedure, and a method of financing a children's guild, or children's section of a horticultural society? Speaking for myself, I am quite uncertain how far a society may at present legally go in attempting to foster among school-children a love for horticulture. May we charge a membership fee of less than one dollar? If so, may we report such membership? Should moneys received and expended in children's work be accounted for separately, or are they usually submerged in the general receipts and expenditures of the society? I am confident that both the Superintendent and the Department approve of the work that is being done by the various societies to educate along proper lines future horticulturists, but it seems to me that more and better results would accrue, especially in new territory, if the Act made positive reference to children's work. In the course of time recognition of such work might be made in the distribution of a portion of the grant voted by the Legislature.

Before receiving a copy of the programme, I had thought of opening for discussion the subject of "Lawn and Garden Competition," but I shall not attempt to anticipate anything Mr. Johnston may say to-morrow, nor detract in any way from the discussion which should rightfully follow his address. I have given some thought and some active attention to the subject, yet, after all, I am rather more in a receptive than in a suggestive state of mind, anxious to seize upon whatever suggestions for improvement may be offered during the discussion of the subject to-morrow morning.

I presume others following me in discussion will speak of premium lists, exhibitions and prize lists. Personally, I prefer seeing a copious list of options offered as premiums for both Spring and Fall planting, but that part of the work must not be spread out so thinly that the society will suffer in the matter of rates obtainable from seedsmen and florists. I am strongly in favour of at least one exhibition each year, and more than one where conditions are right. Societies which omit exhibitions spare themselves a great deal of work (and possibly not unknown to themselves), but they lose one of their most potent forces for stimulating interest

among their own members, for actually increasing their membership, and for creating enthusiasm among the public generally. Healthy competition is an influence for good which must not be thoughtlessly cast to the winds. I would like to see exhibitions, modest or otherwise, made compulsory. The prize lists, of course, must be drafted to suit conditions, but to many new societies, and, indeed, to some older ones, a circular from the Superintendent, outlining a model or typical prize list for a small society, with hints as to how and along what lines its value to a society might be increased, would be very welcome, for where a new society is organized, having as one of its members a man really competent to arrange these and other details for his society, ten others are not so fortunately situated.

Any suggestions I have offered have not been made because of a desire to criticize or find fault. They may not be sound, but they are offered solely with an eye

Ornamental Grass, Cannas and Castor Oil Plants.

to progress and even greater efficiency. I am confident that all have been working together to make it possible, even easy, for a Horticultural Society to organize and carry on a useful work, and to be a factor in the betterment of any community. Even in our city, which is pretty generally regarded as a city of homes and gardens and homelike surroundings, the short three-year period of organized work in horticulture has taught many of us to see details of grounds and gardening before overlooked, has brought to the front vegetable and flower growers hitherto unknown except to their immediate neighbours, and has produced incipient horticulturists where before none existed. It is gratifying to know what abundant assistance lies within the reach of every society which shows merit or progress. My plea is not for more and for greater assistance, but for a wider, more direct and more certain distribution of the assistance which is already available, but, to some extent, not apprehended.

Rev. C. W. Tebbs: With regard to lectures on horticultural subjects, it may be known that the Board of Directors have tried in a limited way to do this during the past year. Where it has not been possible it is because the dates could not be

arranged, or the secretaries of the various societies have not replied to the letter sent them giving them the offer. The new Board of Directors will do well to take this matter into their consideration, and draft a definite circular giving a list of speakers who would be available and the titles of their subjects.

PROF. HUTT: I am delighted at the paper of Mr. Brown. It shows the tendency of our societies, of the members one and all, to help each other whenever possible. Early last spring I sent the following letter to secretaries:

"DEAR SIR,—Most if not all the Horticultural Societies of the Province give liberal premiums to their members. I have been asked by a number of Societies to assist them in the preparation of the list of premiums so offered. This has suggested to me the advisability of finding out what the Societies generally throughout the Province are doing in the way of premiums.

"I would be glad if you would send me a copy of the list your society gave last year or propose giving this year, and if not too much trouble I should like to know, too, where you obtained your premiums, and what they cost you per member. I am seeking this information that I may be better able to assist societies that need help along these lines."

Forty-two out of the seventy-six societies responded to the request, and gave me full particulars, which might be briefly summarized as follows:

1. All of the societies give premiums of some kind, which vary much in kind and value and the method of distribution.

2. The wholesale prices of premiums range from 40c. to $1.50, and the average about 85c. per member.

3. Half of the societies give *The Canadian Horticulturist* as a regular premium. Several make it optional whether the *Horticulturist* is taken or not, and a few offer a choice between the *Horticulturist* and the *Garden Magazine;* the difference in price being paid for by the member.

4. Most of the societies have both spring and fall distributions, the fall distributions consisting mostly of hardy bulbs, such as Crocus, Hyacinths, Narcissus, Tulips, Paeonies, etc.

5. It is interesting to note that while a few of the Societies give bedding plants, which are naturally tender, and of a temporary nature, the majority of the Societies are giving hardy perennials, trees, shrubs and vines, which are of a more permanent nature.

6. Some of the societies give a very limited choice of say three or four options. Others from twenty to thirty, and the majority give at least a dozen. The St. Catharines Society gave as many as fifty-four, and in its circular states: "There is not a single option among the fifty-four which would not cost from $1.25 to $1.75 or $2.00 if bought in the original retail manner, yet they are offered to the members for $1.00, which also includes admission to both of our exhibitions, and the privilege of making ten entries for competition at our exhibition." This is ample evidence of what some of the most energetic societies are able to do.

7. Judging from the lists received, it would appear that some of the societies were more or less at a loss to know what premiums to select. Some were offering tender kinds of shrubs, and new varieties of fruits, which could hardly be expected to succeed in their locality. We think it advisable in such work to confine the selection to kinds fairly certain of proving a success, and would suggest that there be a general co-operation on the part of secretaries in the exchange of annual circulars and announcements regarding premiums. In this way, each society would derive benefit from knowing what the other societies were doing, and the stronger could materially assist the weaker ones in improving their premium list.

8. The answers to my questions regarding the sources of obtaining premiums show that no one has as yet succeeded in getting a monopoly of this trade. A few societies merely give a certificate good for one dollar's worth of seed, shrubs, bulbs, plants or trees, obtainable from any local firm or agency. This plan certainly simplifies matters for the society's executive, but we doubt if it will be as productive of as good results as a carefully prepared premium list.

A few societies offer a good list of suitable premiums at fixed prices, each member having the privilege of selecting whatever he wishes to the value of $1.00, and ordering as much more as he chooses at the same prices.

In Haileybury.
Garden peas over 7½ feet high, some of the pods having eleven peas in them.

I thought I might be able to work out a premium list suitable for all societies but I found this not to be feasible. Societies vary so much that it is best for them to make their own selections.

THE PRESIDENT: I am pleased to be able to introduce to you Mr. Richard B. Watrous of Washington, Secretary of the American Civic Association. We shall have the pleasure this evening of listening to his illustrated address.

RICHARD B. WATROUS: With the hearty clasp of your President's hand I received a thrill which was kindred to the one I received this summer, when, after I had spent five weeks travelling through Germany and France, and struggling with foreign tongues, I crossed the Channel and stepped on to English soil. We Americans like to say that the great thrill we have is in getting back to the port of

New York and seeing the flag. I am an enthusiastic American, but the great thrill of my trip was when I put my foot on English soil, and ran into a gateman who said: "Show your tickets please." (Laughter and applause). I was so delighted I felt like embracing him. I had previously been anxious to go home, but just then I did not care when the boat started. I thank you for your greeting.

WM. HUNT: There is a point touched on in the report; this is in respect to the school children, and junior members of the Society. Junior is a new term. Guelph was the only Society that took up the question at all, and Mr. Brown remarked that in catering to the school children it was difficult to know how far to go, and what to do. We were diffident as to what to do. The juvenile portion of our community is the most important part that our horticultural societies want to reach, and we should take up this question, and consider the matter of junior members, and the children of the schools in as large a way as possible at this convention. It, however, is impossible to go into it in detail; many factors are in it. Take the Boy Scout movement and the Cadets. All could be made use of in a project of this kind, and I think Mr. Brown's address requires a great deal of consideration. I suggest that a committee of two or three prominent and active members of the Association be nominated to report on it at the next convention. If they had a year to work on, something could be done, and a report presented at the next convention, which would put the matter in good shape. I would be glad to give any assistance I could, and I know Prof. Hutt would.

T. D. DOCKRAY: I have listened with the greatest pleasure to the able paper by Mr. Brown regarding the premiums. In Toronto we are not able to say very much about it. Some years ago we used to give premiums to the value of 50c. The members were given credit to that amount at the local seed stores: and one year, to encourage the growing of tulips, the Society gave two bulbs each of twelve varieties. We sent abroad for them. The twenty-four were packed with a blank label, and they went to the secretary's office and got the boxes. But we got a very energetic President in the Society, a splendid man, who got a great number of members, and encouraged us to reach out in children's home gardens, and I do not know what all. In getting members for the Society, when anybody said "What do I get out of it?" he immediately said: "You get nothing out of it now: give me ten dollars for this important scheme," and they did. Whether it is worth while taking all this trouble over so many options is another view of the question. The Brampton report says: "We believe in giving members two or three good things whether they like it or not, rather than giving them several that they are prepared to choose from." Do not give them anything, but give two or three things that will suit everybody, so that they will be able to accumulate something good.

HORTICULTURE IN ONTARIO'S NORTHLAND.

HON. W. H. HEARST, MINISTER OF LANDS AND MINES.

It is a great pleasure to meet a friend of my boyhood's days in your chairman, and also to meet so many representative ladies and gentlemen of this fair Province. I regret that it did not fall to the lot of one much better qualified to speak on the subject you have assigned to me this afternoon.

From a residence of a quarter of a century in Northern Ontario, from a study of its resources, and its timber lands, and a consideration of the best method for

developing the great resources that Providence has given to us, I feel qualified to speak to some extent upon these resources and developmnt, but not in any sense am I qualified to speak with reference to the horticulture of the Northland. Although not qualified to deal with it, one who understands the conditions which exist there might paint a more glowing picture even than can be painted, or perhaps any other in connection with that country. In speaking of Northern Ontario from any standpoint it is well to get a right perspective, to appreciate where it is situated, its extent, its climate, and in a general way, its possibilities. The Province of Ontario prior to 1912 consisted of 260.862 square miles. In that year by an Act passed by the Parliament of Canada, what we call the district of Patricia, added 157,400 square miles, an addition of 60 per cent., a district as large as Austria.

In this large area, making 418,262 square miles in Ontario, over 330,000 square miles lie in north, or New Ontario, considerably over 80 per cent. of the area of the Province lying in that district. The Province of Ontario to-day has only under cultivation over thirteen millions of acres. We have in Northern Ontario as splendid agricultural land as lies under the sun, an area as large as we have under cultivation. We have a great clay belt, millions of acres in Nipissing, Algoma and Thunder Bay, of as fine land as you can find anywhere; and on speaking of this area I am speaking entirely apart from the district of Patricia. In that district we have in one block from 50,000 to 60,000 square miles which geologists tell us is as rich agricultural land as can be found anywhere. We have another block, a large area of the extent of which we are unaware at the present time, and the only question as to what may become of these lands from an agricultural standpoint is one of climate. That has not been fully determined yet, although we know that grain and vegetables of almost all kinds grow as far north as Hudson's Bay. Mr. J. B. Tyrrell, visited that country at the head of a party of explorers last year under a commission from my Department, and he brought from Trout Lake, 200 or 300 miles north of Port Arthur, potatoes of good size, and splendid quality, indicating its ability to produce vegetables of a very fine character. In speaking of Northern Ontario we sometimes get a wrong view of the climate of the country; we look upon it as a region of ice and snow and think the climatic conditions prevent the production of the articles that can so well be grown in other parts of the Province. A study of the facts will show that this is not the case. If you would superimpose the great wheat provinces of Russia on Canada you will find that they lie north of the inhabited portion of Canada.

Take 252 miles north of North Bay, at present a northern outpost of settlement in the Province—although I believe that in not many years you will find that settlement will penetrate seventy miles further north of that: Cochrane lies fifty miles south of the City of Winnipeg, and much of Northern Ontario lies away south of the international boundary that separates the Western Provinces from the Western States of America. If you would compare the temperature at Abitibi on the Transcontinental Railway with Winnipeg, it compares very favourably with that city. We are all aware of course that altitude as much at latitude has much to do with climate, but in Northern Ontario, and in the agricultural sections particularly, you will find that we have no great altitude. The country is level and particularly in the section I am speaking of it is sheltered by the forests and tempered by the ocean to the north. Then I can assume that there is nothing in the climate to prevent the production not only of grains, but of vegetables, flowers and practically everything that can be produced elsewhere. It is a well established fact that the further north you go to produce an article, the finer is the quality.

It is that fact that makes the apples of Ontario superior to anything in the world, and a short time ago enabled the province to take off the sweepstakes in the City of Winnipeg against British Columbia, and others at the show. Investigation was made not long ago in Japan as to the relative quality and merits of Canadian and American wheat, and it was proved that a bushel of Western Canadian produced more flour and of better quality than that from Oregon. So in Northern Ontario not only are we capable of producing vegetables and flowers, but of raising a better quality than elsewhere further south in the Province. Other factors help to assist in the growth of products, particularly vegetables and flowers, in that land. The very long days and the not excessive heat contribute to this result.

Then, if we have the climate, we certainly have the soil, of that there can be no doubt whatever. The great clay belt, geologists tell us, was at one time a great lake and at the bottom of it was the accumulated sediment, vegetable matter, that helps to enrich the soil, that has been added to by centuries of leaf mould and vegetable matter since the lake has disappeared until we have a great depth of as rich soil as you can find anywhere. In fact, the depth of it is remarkable. I have seen growing at the bottom of cuts twenty feet deep timothy of the finest quality and other things as well. It has been said that soil taken from fifty feet or sixty feet down is shown to be equally rich with that near the surface. Mr. Englehart, Chairman of the Temiskaming and Northern Ontario Railway, who has made a greater study of the soil than any other man, tells me he compared the soil of Northern Ontario for flowers with that at Lambton, and taking the soil from Englehart and placing it side by side with the latter with the same seeds, the same care and attention, the flowers on the northern soil far surpassed those from the Lambton soil. I have attended agricultural fairs at Englehart, and different points, Manitoulin, Port Arthur and Kenora, and in each and every one I have seen exhibits of vegetables and roots that would put to shame the exhibition that I have seen at the Canadian National Exhibition, or any other fair in the older parts of the Province. This fall a friend of mine from Cochrane, 252 miles north of North Bay, shipped me a cabbage from the open field grown without fertilizer and without any special care. He informed me it was typical of the field. It was of excellent quality and character, and tipped the scales at over eighteen pounds. It is not unusual to have them weigh twenty pounds in the north country. At the same time he shipped me Brussels sprouts, celery, lettuce, and every kind of farm produce that is growing there, all of splendid quality and character. Let me pass now 1,000 miles to the west. At the town of Kenora, at the Lake-of-the-Woods, you could have seen tons of tomatoes of the most perfect character possible ripening in the open air. You could also see peas, and beans, and every variety of vegetables, Brussels sprouts, melons of different kinds ripening to perfection in the sun.

Mr. Lorne McDougall, who has made a great success of growing both vegetables and flowers, informed me that in 1908 he had a patch of tomatoes. These were planted in June and in September they were photographed, and Professor Zavitz informed me they were the finest patch he had ever seen in the Province. This can be judged when one of them weighed 2 lbs., two weighed 2½ lbs., a bunch weighed 4 lbs. and he picked 14 bushels of ripe tomatoes from one patch in a day. Col. Hay, who is known to many of you, grows to perfection Montreal melons in his garden at Haileybury. As a sample of what can be done in the vegetable line in Northern Ontario, I call your attention to a gentleman who failed in one of the best counties of Ontario, and having passed his three score years, was practically without a dollar. He purchased what was almost an

A Haileybury Residence.

Photo J. Lorne Macdougall.

abandoned farm on credit for a few hundred dollars. He had only his two hands to go to work with, yet to-day he owns the farm: he has the most complete equipment for a market garden—one of the best I have ever seen—and to-day you could not buy it for $20,000. That gives a practical illustration of what hard work and energy will do with the soil we have, and of the climate we have for the production of vegetables. The same conditions bring about the production of small fruits, strawberries and others. I do not think you can find them equalled anywhere. They are of larger size and of better quality. In New Liskeard, plums, apples, currants and grapes will ripen to perfection. In many parts apple growing has been a great success. At St. Josephs they are going in for it on a large scale. Companies have been formed. The quality of the apples produced is splendid. Not all the varieties that prosper in the south are adapted to the country, but many fine qualities can be produced. I know from experience that in the case of crab apples you cannot purchase anything to compare with those grown in Algoma. Speaking of flowers, which perhaps interest this gathering more than anything else, the same factors that contribute to the growth of vegetables, do the same for the growth of flowers. The long days, the lack of excessive heat, and the climate generally, seem to produce the hardier plants, more beautiful in coloring, and results generally better than elsewhere. The ability to grow flowers successfully has been demonstrated by a florist at Temiskaming; this has done much to stimulate horticulture. The Temiskaming and Northern Ontario Railway Board have distributed plants and bulbs of all kinds, and you will find at every station a beautiful garden spot adding to the beauty and pleasure of travelling along the line, a marked contrast to what you will see along some railways in other portions of the Province. If you have any doubt as to what can be done in this respect, go down this afternoon and look at the chrysanthemums in Dunlop's window.

In the western part of the Province, in the Town of Kenora, 1,000 miles to the west, almost at Manitoba, I visited Capt. Meacham last year and I saw an exhibit of sweet peas. I never saw anything to compare with them anywhere else. The stems were in some cases fourteen feet high, and in no case less than ten feet. The bloom was within a foot of the bottom and went to the top. Capt. Meacham had a plant of wild primrose, sent him from England. He left it outside and it was supposed to be dead. It was a surprise to him and a matter of wonder to his friends when he was able to exhibit it in full vigor, and on one of the plants fifteen flowers were produced.

I might give you other examples of what has been done in that country. It is a new land, the town of Haileybury being only ten years old, but we are trying to develop the material side, and not only that, but also the beautiful as well. Scarcely has a municipal organization been formed in any town until steps are taken to bring to the citizen of that town or hamlet all the modern conveniences, such as sewerage, electric light, telephones, and paved streets, and all that goes to make up the amenities of modern life. We are beautifying the towns as rapidly as possible. We cannot expect to have the same conditions as in older portions of the Province, but we are developing the beautiful not only in our towns, but in the Province and in the Dominion, and if we, as Canadians, do our duty in the development of the land we will do a great thing, not only for the Province but for the Dominion, and for the Empire at large. I hope that many of you will be able to visit the north country, to understand its opportunities, and what it has done, and what it may accomplish.

R. Whorley: I should like to convince the members of this Association of the possibilities of our northland of which Mr. Hearst has spoken. I took up land there six years ago, and laid out a garden, and several professional men and amateurs belong to our Society, which is doing extra good work. With regard to vegetables we are not afraid of any part of Canada. If it were possible to come four hundred miles to exhibit here at the exhibition we would hold our own. I did not know I had sufficient money to take me there. I walked into Haileybury with $7.50. Six months afterwards I bought seventeen town lots. I have 160 acres two miles outside the town, first-class land with $14,000 worth of lumber upon it. I have brought my wife and family out from England, and have a first-class house. Speaking of flowers, our amateurs could show sweet peas from ten to fourteen feet high, with four or five flowers on each stem. Annuals grow to perfection, better than any I have seen in England. The tomatoes of which Mr.

A Beauty Spot in Sudbury.

Hearst has spoken are certainly a surprise to everyone who has seen them. It has been an exceptionally good season. In July I was marketing tomatoes in Haileybury.

W. B. Burgoyne: I move a vote of thanks to Mr. Hearst for coming to our convention and giving us this address. We know Ministers have many calls upon their time, and it is a pleasure to us to have him come and give us his message about our northland. I endorse what has been said. It was my privilege a year ago in August to visit the new country with the associated Boards of Trade, and I can speak about my impressions of Haileybury and of the flowers there. It was a sight to all of us interested in flower growing as we came from New Liskeard and passed through one street after another in Haileybury, and saw the beautiful gardens. It seems as if the residents could set an example to many of the older towns in Ontario. When a banquet was given by the citizens the tables were decorated with flowers such as are seldom seen. Mr. Johnston, of Berlin, one of the delegates on that excursion, brought home with him baskets of soil to test in his greenhouses. Perhaps in the same way the Department might place some soil at

the disposition of members of the Association, in order that they might test its prolific nature. Carried.

The President: We tender to you Mr. Hearst this vote of thanks. It has been the privilege and duty of this Association in the past few years to come, not to the Department of which you are the head so much as to one or more of the other Departments, to secure aid. We have placed our matters before the Government in a frank and honest way, and we have had the privilege in the past two or three years to say how conspicuously fair we have found the Government with our particular department. We rejoice to have you with us to-day in order that you may understand our aims and ambitions. We are with the Government of the day, or any other government that takes the interest you are taking in this, the chief enterprise of our nation.

Hon. W. H. Hearst: I appreciate very much the kind vote of thanks you have been good enough to tender to me. I do not feel that any thanks are due to me at all. I always look upon it as a matter of duty, when I can aid such an association as yours, to give that aid, no matter how feeble it may be. It is always a special privilege to have the opportunity of saying something about Northern Ontario. My heart is very much bound up in the development of that country, and if you desire to test the soil I shall be only too pleased to see that it is available. With reference to your remarks as to relationship with the Government, I hope it will always be satisfactory to your Association. You, no doubt, appreciate the many demands made for many laudable objects. It matters little what the Government is, or what party, the only question is: "Are the public men taking an interest in it, with the citizens generally, working together for the development of the great heritage God has given us in the Province of Ontario?"

A PARK SYSTEM FOR SMALL TOWNS.

C. E. Chambers, Park Commissioner, Toronto.

No town, however small, can afford to grow up without providing suitably for the parks and open spaces it will surely need, if its beautification and healthfulness are to receive proper consideration. In practically all of our older cities we have examples of how rapid development and attending congestion have crowded out the open spaces which should have been preserved for the recreation and enjoyment of the people. Railways and other undesirable features have been allowed to thrust themselves upon the lake or river front, despoiling it forever of its natural charm and beauty, and robbing the city or town of its chief attractiveness, and areas which at one time possessed infinite possibilities in scenic value are pre-empted and needlessly destroyed for commercial purposes. There is no excuse for such conditions obtaining in the growing town, if the lesson of properly planning for its development is learned in due season, and with the wide world furnishing—as it does to-day—a school in which this knowledge may be freely had, there is no excuse for neglect to learn this lesson.

Preparation of Plan.—The early preparation of a comprehensive plan is, of course, the first step in the conservation of the features of natural beauty with which a town may be endowed or surrounded, and for the setting apart of areas for park and recreation purposes and the establishment of boulevards, playgrounds, squares or open spaces. This plan will have largely in mind not only the town's

needs of to-day, as evidenced within its present limits, but the requirements when development has probably extended its boundaries far into the environs. In the preparation of the plan the location and distribution of the park areas should be given careful thought, to the end that each section or district may have its proper complement of parks, squares, recreation grounds and playgrounds, properly related, in their location, to the purposes to be served by them. The most striking scenery of a district will naturally be reserved for park purposes, and especially the banks of a stream or the water front—where such exist. Waste or marshy areas may be profitably reclaimed and converted into pleasure grounds. Wooded areas adjoining the town will, of course, be conserved, and park lands will be secured within its probable boundaries as financial means will permit.

Park Reservation on River Front.

The Park Site.—In selecting a park site, attention should be particularly paid to the matter of its boundaries. It is a somewhat common error to neglect this. Where necessary to a complete picture, the *whole* of a hillside should be secured, the whole of a body of water, or the whole of a glen or ravine. The appearance of many parks is marred by an impression of incompleteness brought about by the unnatural restriction and limitation of their boundaries. The park within the town will necessarily be bounded by streets, but on no account should its boundaries be built upon. Back yards as a frame to a park should not be tolerated. The park should be an aid to the town's beauty, instead of being concealed in the rear of buildings, however desirable.

Development of Site.—The development of the park site involves a serious responsibility, calling, as it does, for the preservation of natural beauty, and the creation of that which should add its share of charm to the town's attractiveness.

The location and topography of the site will, of course, govern to a considerable degree the treatment to be accorded it, but great care must be exercised in this, lest, in too great straining for ornamentation, the natural advantages which nearly every well-chosen area possesses be lost in the effort to improve, and an artificial and undesirable result substituted therefor. Drives and pathways will be necessary to lead from point to point, and these should be so arranged as to disclose along the way the most striking of a park's scenery and lead to points of greatest vantage. It is particularly essential that the roadways be good, if the popularity of the park is to be developed. Let at least the foundation for these be laid in their proper location, while the work of improving them is undertaken as resources will allow. Where planting is necessary, it should be the aim to have this in accord with the surroundings, and it should be made with a view to its future effect on the landscape. Use largely native trees and shrubs, and do not make formal beds of flowers in natural parks—there is plenty of room for these in the town park or square. Water courses should invariably be preserved, and, where feasible, may be supplemented by artificially created lakes or ponds, stocked with water fowl. This may be made a most attractive feature in the park.

Park Buildings.—Certain buildings will be necessary in the park; shelters in case of storm, and booths where refreshments may be obtained. These, while being located in the most useful situations, should not be unduly obtruded upon the landscape, but placed where they will best harmonize with their surroundings. They should be simple in design and quiet in tone, for if we gain in the outstanding appearance of the building, we almost surely lose in the appearance of the park.

Gateways.—Gateways of proper character may be made a pleasing feature of the park plan, and serve to indicate the separation of the life of the town from the quiet restfulness to be found within the park.

Parkways.—A parks system is lacking in one of its essential features where the park areas are not linked together by suitable parkways or connecting links. It is quite a usual practice to omit parkways from the town plan until the thoroughfares which might have been used for that purpose are rendered more or less unsuitable by the laying of ill-placed pavements, sidewalks and boulevards; while, on the other hand, with a properly conceived plan, a street of even usual width might have a boulevard reservation sufficient to allow of a planting of shade trees and shrubbery which would serve to carry the park thought from point to point in a pleasing and appropriate manner.

Boulevards or Driveways.—The boulevard or driveway, as differing from the parkway, will aim to give access to all points of special interest within driving distance of the town, and reaches of mountain, woodland, lake or river front will preferably be chosen for it. Land not being held for building purposes in the country traversed, it will be mostly available at low cost, making reservation for the bouevard feasible, from the financial standpoint, before the up-building of the country has interfered with its possibilities. Adjoining municipalities might well enter into a concerted plan for the acquisition and construction of the country boulevard, and thus secure to each the advantage of the linking up of their respective external driveways.

Open Spaces or Squares.—It is imperative that provision be made in every town for its adornment with open spaces or squares. Reservation should be made for these at important street intersections, in front of the railway station and public buildings, and in the residential district. These may be furnished with

Water Fowl Pond.

A Park Shelter.

fountains, monuments or ornamental lamps, or suitably planted, and lend much to the embellishment and attractiveness of the town, besides maintaining breathing spots where, as congestion increases, one may rest for a moment from the every-day stress and turmoil.

Playgrounds and Recreation Areas.—The supervised playground and the recreation area are among the most vital considerations in the life of a growing community, and it is the positive duty of every municipality to see well to it that every reasonable opportunity is taken to provide for the development of these features. The supervised playground, under the care of competent supervisors, and equipped with gymnasium apparatus, a swimming or wading pool, and a building in which are shower and other baths, and rooms, which may be used

An Inexpensive Gateway.

during the winter for the instruction, enjoyment and entertainment of the young folks, is an indispensable factor in their training for good citizenship, promoting, as it should, the development of the best qualities of body and mind. Locate the playground amid pleasant surroundings if possible. A relatively small part of a park will furnish the necessary accommodation, and the children will receive a lasting good impression through its elevating influence. If only a barren lot is available, plant the corners with shrubbery and flowers, and so bring to it something of beauty and refinement.

The recreation area is likewise indispensable, and here should be found facilities for the various summer games and winter sports, including baseball, cricket, football, tennis, skating and hockey rinks, etc., tending to the encouragement of a healthy, out-door life, and offering enjoyment, near at hand, to the toilers released for a time from the workshop, factory or office.

The responsibility for the operation of the playground and recreation area

should rest with a single organization, and should not be divided, as is commonly the case, between the school authorities, the town authorities or other bodies.

THE FINANCIAL SIDE.—The carrying out of the phase of park development herein outlined will doubtless involve serious consideration on the part of the smaller town of the financial ways and means to that end, but with the needs of the situation fully recognized by its people, and with a plan of development determined upon, the raising and setting apart of a sum sufficient in each year to forward at least some part of its features should not be a task beyond those earnestly striving towards the ideals of a progressive municipality.

This paper is rather a brief one, but should there be any information anyone would care for that I can give, I shall be glad to answer any questions regarding the matter. Or if you write the department for any information relating to the cost of park work we can give it, as we have an elaborate collection of statistical matter.

PROF. HUTT: Provision is made for half a mill on the assessment for the parks. I think that is not known as it should be. The Horticultural Societies should look into the Act, so that we might hear more of better parks.

R. A. DAVIES: In Hespeler we are assessed half a mill on the dollar, but it is not sufficient. At the present time it does not raise $300. There might be something more done.

C. CHAMBERS: I think it might. Legislation only permits us to levy half a mill, and it is not sufficient. Probably we are in the same situation as smaller towns.

J. H. BENNETT: In Barrie we are met with the same difficulty, and if we want to go on and improve parks we have to ask the people to submit a by-law for that purpose.

RECENT EXPERIMENTAL WORK.

F. E. BUCK, C.E.F. OTTAWA.

Never before in the history of the world was there a period when such a vast volume of labor was performed, such years of careful and ofttimes laborious thought given, or such huge sums of money spent as are to-day performed, given and spent for what is termed Experimental Work. In every branch of human effort we can find an Experimental Section.

That ninety-five per cent. of nearly all such Experimental Work is negative in its results, or looked at in another way, is time, money and labor lost and yet does not deter the human race in its effort to better its position and the things which make life more livable, is eloquent testimony to the indomitable courage and perseverance of the human spirit. It is not too much to affirm that the five per cent. of successes in this Experimental Work of the last one or two hundred years has carried the world a larger step forward than that which it took during the previous two thousand years.

Now, while this great loss in Experimental Work, due in some cases to negative results and in others to immature ones which have to give place to more reliable results, as is the case to-day with the modern science of aeronautics—while this loss is to be regretted, it is soon forgotten or honourably acquitted in the light of the small percentage of magnificent triumphs.

At Ottawa where the chief farm exists which is the central one of the system of Experimental Farms, the like of which for rapid growth and efficiency is perhaps not paralleled in any country of the world, our work is of such a character and such kindly interest is taken in it by all sections of the Canadian people that we are required to tell you, at the present stage of agricultural development, through our reports and bulletins, the result of all the one hundred

A Country Driveway.

per cent. of work undertaken, that is, the big percentage of negative as well as the small percentage of successful work. It is, of course, true, and we may have occasion to see why before we close, that the results of our work at the Central Farm and Branch Farms show a better balance than that of typical Experimental Work indicated in the general statement. But the point here is, first we should be more than satisfied if we can garner from Experimental Work a fair percentage of such successes as more than repay for all spent time, money and labor; and

second I wish, if possible, to use the remainder of this short paper in considering the successes of our work rather than consider it too much in its bulk form.

I must state, however, that when I started to write this paper along these lines I was faced with a little difficulty. The paper as the title proclaims was to deal with "Recent Experimental Work." But by the very nature of the case it is more than difficult to pick out successes from experiments which are still in the brewing. And even if such could be picked out the character of our institution and reputation require that not too much be said about work unverified by the test of time.

The way out of the difficulty appears to be to call your attention first to the older work which has been a success for years and which we are still continu-

Decorated Square.

ing and then to say something about those lines of effort which are being started in order to meet modern requirements, and the paper from now on will be confined, of course, to the work done in the Horticultural Division and more particularly in the sub-division of Ornamental Gardening.

First then the older work:—

Work with Trees and Shrubs.—At the very beginning of the Experimental Farms System in Canada, the work of testing, recommending and in some cases distributing hardy and desirable ornamental trees, shrubs and flowers was undertaken on a fairly extensive scale. The work was under the direct supervision of the late Director and the present Dominion Horticulturist who was at that time Curator of the Botanic Garden or Arboretum. In a young country like Canada work of this character undertaken by the Federal Government on such a scale had an outstanding value. In the first place it allowed reliable information

to be issued in the form of semi-popular Bulletins such as those of "Hardy Trees and Shrubs," and "Herbaceous Perennials tested at Ottawa," very large editions of both these bulletins being now nearly exhausted; and in the second place the judicious distribution of such plants to the Branch Farms, Public and other Institutions where they attracted the attention of the Public has meant that for some years past, and at the present more than ever before, the possibility of beautifying the individual home and making it a beauty spot has appealed to a large number of people who otherwise to-day might have homes as unattractive as those of many districts of the old world or the desolate homes of new settlers in our own land.

Countless shrubs have been tested and discarded. Others have proved of great value and the good results rewarding the efforts put into this line of work make it stand out surely as of large importance in encouraging the strivings after those things which develop the moral and ethical phases of our life.

This work is still going forward. Just now, to mention but one of its phases, we have under observation a number of new shrubs and varieties of well known shrubs which were introduced a few years ago from China and other countries by E. H. Wilson, of the U. S. Department of Agriculture, as well as other shrubs both donated and purchased. We are also putting shrubs to the test with regard to their suitability for certain purposes around the home—a phase of work rather new with us.

In this same regard the test of plants for hedge purposes is being expanded and kept up-to-date. Nowhere in the world, as far as I am aware, is there such a complete and thorough test of plants suitable for hedge purposes as that which may be seen under way at Ottawa. About one hundred different varieties of trees and shrubs are used. Many of the hedges are over twenty years old while others are only one or two. Most are in fine condition and many are very handsome and attractive. Visitors from all parts of the world compliment the Farm on this collection, and enquiries are very numerous about plants for this purpose. A bulletin on the experiment will be published before long.

A fact or two which we have discovered and which seem to interest visitors to our Farm when such are pointed out to them, I should like to mention.

The following trees make almost perfect hedges:—

All of the hardy Birches, namely: lutea, populifolia, nigra and lenta.

The Larches, both the American and European.

And several other trees: while some trees that might be expected to do better when grown for hedge purposes are not successful; of these the Elm, the Manitoba Maple and the Russian Mulberry are examples.

It is always a source of disappointment to attempt growing any plant with the dual purpose in mind of a floral effect and a good hedge, because in pruning a plant to keep it to a hedge form the flower buds have to be sacrificed, consequently several of the most handsome shrubs make poor hedge plants. However, if a hedge with a distinctive character is required, any one of the following might be used:—

Purple-leaved Barberry, Golden Ninebark, Red-leaved Rose, Cut-leaved Alder, Red-twigged Dogwood, American Beech, and the following evergreens: Douglas' Golden Arbor-Vitae, Silver-tipped Arbor-Vitae, Irish Juniper and Swiss Stone Pine.

Ordinarily we score a plant as perfect for hedge purposes when it measures up to the following requirements:—

It must grow vigorously but not too rapidly; otherwise it will require too much pruning.

It must have an attractive appearance throughout most of the year and must regain that appearance quickly after pruning.

It must permit being pruned to a symmetrical form and a form which will not hold the snow on the top in the winter.

Monument at Street Intersection.

It must fill out well at the base when planted in single rows at eighteen inches apart in the row.

It must not winter-kill in places, and must not suffer from attacks of insect or fungous diseases.

These are the main points of a good hedge, and at Ottawa we have many which meet all these requirements.

Work with Perennial Flowers.—A few words only on perennial flowers. Mr. Macoun's bulletin on "Herbaceous Perennials" published in 1908 shows at

a glance the immense number of these important plants. This group has been eulogized of late as being responsible for most of the recent good work in Home Beautification.

Our most recent work with perennials has been to test them for their effect under certain conditions. All the best of these flowers previously tested for other information are now grown in a border 12 feet wide and 450 feet long, prepared specially for the purpose in 1911. In this border the five or six great seasonal groups of perennials are well represented. Such being the bulbs as: Tulips, Narcissi, etc., for the first effect in spring, then the Irises, then the Paeonies, after which come the great bulk of bloom which is followed by the Phloxes for late summer effect, and the Asters for autumn effects.

It should be mentioned here perhaps, that there are certain times during the summer when the amount of bloom in a perennial border is very small. One of these periods is that which occurs just after the bulk of the early summer plants have bloomed. Since this is a time of the year when a large number of people are expecting the flowers to look at their best, we are just now working to find suitable flowers to fill in these gaps in the floral year.

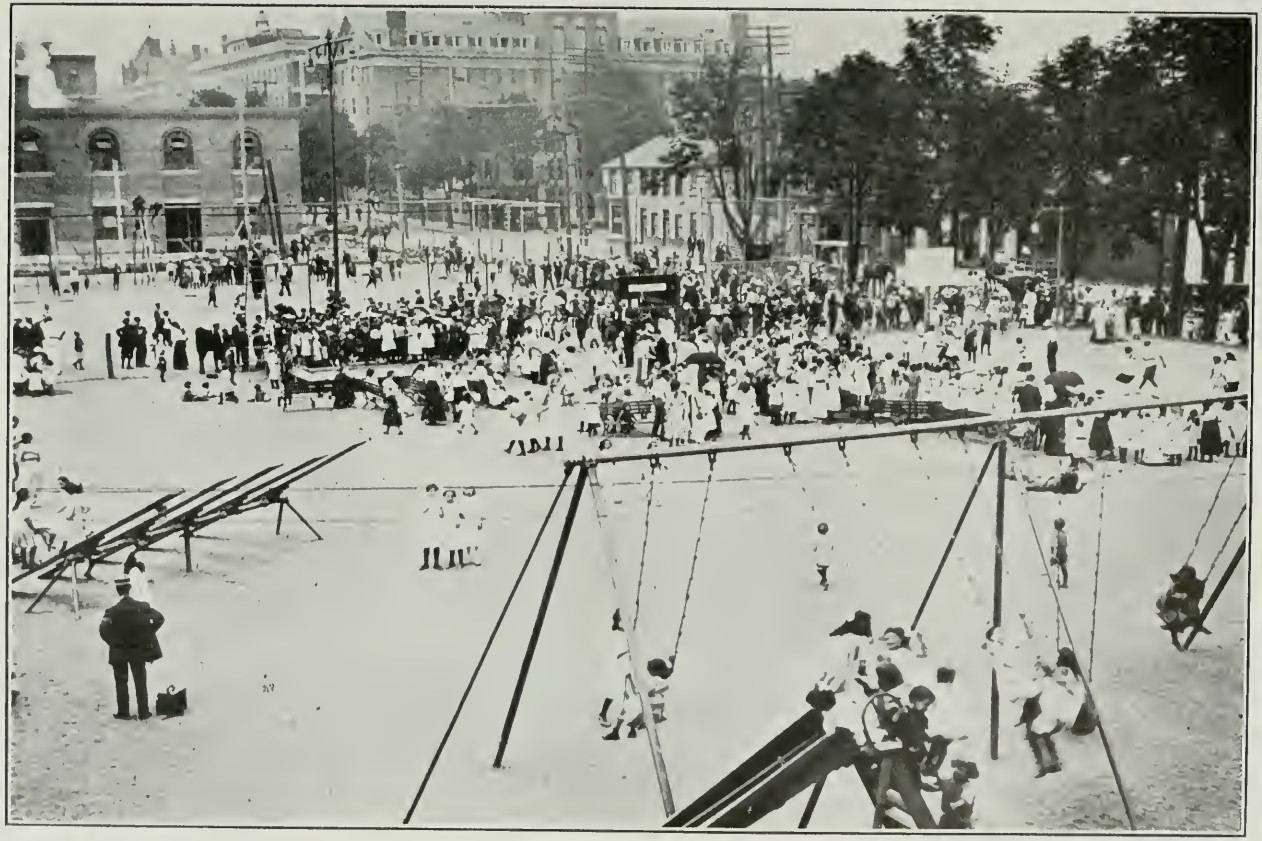
The Newer Work.—Having then briefly indicated that in the older work there are at least three lines of effort which we hope have met with a permanent success and are proving of value, namely, the work with ornamental trees, shrubs and perennial flowers. I think it will be well to come to the second division of the paper and tell you a little about work more recently commenced.

First of all, with regard to annual flowers. Annuals were of course grown at the Central Experimental Farm in past years, but no systematic attempt was made to record data relating to them, such as was done by Mr. Macoun with regard to the perennials grown in the Arboretum.

Since 1911, however, the seed of several hundred different varieties of annual flowers has been obtained each year from various seedsmen in this and other countries. Details are not possible here, but results have been obtained which are suggestive and encouraging. Some results have suggested other lines of experiment, for instance, the seed of a number of annual plants left over from previous years and saved for a test as to germinability was sowed just before the period of drought of last June and July. A certain number of the young plants which came up did not succumb to the heat and drought, but survived under the most adverse conditions and gave bloom late in the year after those of the regular test were over. As a point of interest, it may be stated that they bloomed with us at Ottawa up till the end of October. From this we conclude that it may be well for us to try out most annuals under similar conditions, in order to know what can be recommended to people who wish to raise flowers under conditions that would make a weed blush to do well. There are, of course, people like this who write to us for information. Some, unfortunately, who would willingly stint the care and yet accept the results, others there are, alas, who in arid sections can offer to the flowers but scant courtesy while doing so most unwillingly.

One very interesting point of general interest which we have noticed and which has been called to our attention by visitors from the old world in connection with these annuals is that the intensity of their colors is greater with us at Ottawa, than it is, say in England. The brilliancy of the whole patch of annuals tested at Ottawa was very great this past dry season.

To tell you anything about the recent experiments, commenced in 1911, with Roses, more particularly the Hybrid Tea varieties, other than this, that already



Supervised Playground.

a first edition of a pamphlet on Roses has been exhausted and another edition will be ready shortly, is unnecessary perhaps, because what we have to say about the test so far will be said in that pamphlet. I must mention, however, that we started tests with Sweet Peas about the year 1910. So far these tests have been chiefly variety tests, but, in the future, we are planning to make them cover, in addition, methods of growing, etc. We need definite information on several points such as whether Sweet Peas will do well when grown under certain conditions in the same position year after year. We want more information as to the control of Sweet Pea diseases and troubles, reliable data regarding which cannot be given till definite observations have been carried on several years. We do know certain things about certain methods which seem to contradict certain prevailing opinions. One is that Sweet Peas grown in a trench did not do so well in our soil as those grown by their side which were sown in level ground. Another is that those planted from six to twelve inches apart, did not do so well as those planted three inches apart and that those planted closer than this did best during the early part of the year only.

Since the Sweet Pea is so popular I thought I might be pardoned more readily for mentioning these details.

How Experiments Sometimes Originate.—The large and increasing volume of correspondence which falls to the lot of every officer at the Central Experimental Farm to deal with often contains questions which suggest by their frequency that Experimental Work should be started in new directions.

At the present time we have in mind several experiments which are in a measure to be taken up in order to enable us to give correspondents fuller information, and from a more local standpoint. In this class we include experiments which while interesting a limited section of the public only indicate that there are forces at work in Canada to-day which augur well for the culture of its people of means and their appreciation of beautiful homes. For instance, a few years ago practically no enquiries came to the Farm with regard to Aquatic Plants, Rock Plants, etc. Such is not the case to-day, however, and we are preparing ourselves to give information on these and similar questions from first-hand knowledge.

We have also in variety tests of certain large groups of plants, such, for instance, as the Perennial Phlox, the Paeony, the Iris, etc., a very large field for persistent effort; for this reason, we have in all such groups too many inferior varieties and too many varieties of ordinary merit duplicating each other, some of which should be eliminated. This question is, however, one for a trade meeting rather than one such as this.

Our efforts to improve things in these connections, which, of course, have not been superhuman in the past, would be greatly strengthened (I believe if I may say so personally and on the side) if those efforts could be prosecuted in co-operation with the actual growers in Canada and elsewhere.

Lastly, I should like to say that in all our Experimental Work at Ottawa we wish to keep in mind at least two things, one is improvement, that is, in the widest meaning of the word. Improvement is sought by selection, by introducing new things and discarding old, by rearranging old and new, by modern technique, by methods of culture, of control of insects and diseases, by the cultivation of that taste and knowledge of the best which leads to the improvement of those things that make better home surroundings feasible—improvement, that is, in things themselves and in the way of doing things. This must be the *raison d'etre,* the basis of our Experimental Work.

The other thing is this, bringing us back to the point where I remarked that it seemed to be true that the number of successes in the work at the Experimental Farm is perhaps greater than indicated in other connection and for this reason, we do not seek the new things so often as the slight improvement of the old and therefore our chances of success are greater and at the same time tremendously potent by accumulative force in the course of years. Even as much as is the advent of one new thing occasionally. The balance of the success of the Experimental Farm system is a creditable one we believe, and so long as we remember not to do work which other people—other Experimental Stations in the States and elsewhere— have already done: so long as we do not do duplicate work, but remember to do work called for by local conditions, and know how to fit it into its place in life, and do it without deviation by discouragement of season or events even so long will the Experimental Work be of a quality and quantity justifying, we hope, its continuance and increase.

SCHOOL CHILDREN AND HORTICULTURE.

Mrs. R. B. Potts, Hamilton.

The present age might justly be termed the Children's Century since it is doubtful, if ever before, there was a period when such wide-spread interest was taken in all affairs relating to child life and its best development.

Horticultural Societies, like other organizations composed of thoughtful men and women, have seen the importance of doing something towards helping to solve some of the problems which are demanding attention.

That some have gone more deeply and earnestly into the subject than others and have faithfully striven to do their part is not to be denied, and yet none are satisfied with the results of to-day, being confident that something better is possible, if only the way to discover this can be found.

Past records of this Association show that the subject had impressed its importance on the minds of some, as the report of 1899 gives an address, delivered at Whitby, which is worthy of consideration to-day: while at the Association meeting, held in 1902, this statement was made: "If we wish to have the men and women of this country interested in fruits and flowers, we must first attract their attention while yet children."

The theme is, therefore, not a new one, nor has it lacked the advantage of having capable advocates in the past, so that to ascertain the reason for barrenness of results some other source must be sought.

Nothing really worth while can be accomplished without effort—well organized effort: and in this matter of school children and Horticulture in its relation to Horticultural Societies the trouble seems to lie in the fact that so far there has not been a systematic attempt to put into operation some definite plan of action.

At last year's meeting, for instance, the subject of doing something more toward interesting children and including them in the membership of this Association was briefly discussed, but the matter ended just where it began, and since it is from the ranks of the children the future membership must be drawn, this should not be overlooked and remain as it stands to-day. The children should now be in training so that when the hour strikes for them to assume the positions and responsibilities at present the portion of their seniors, they may be ready to undertake their duties.

We had to learn many lessons by paying very high fees to that well known specialist in education "Experience" and our own struggles to acquire knowledge—retarding as they did our rapid progress—should make us the more thoughtful and sympathetic and we owe it to the children of to-day to do our part towards pointing out less devious and intricate paths than those we had to travel, and in this way we will prevent loss of time and diffusion of energy which might be put to better use.

Many educators think that our schools run too much to purely academic instruction, and so manual training and school gardening are being steadily advanced to more prominent places.

In regard to the latter, besides its advantage as a means of deepening interest in scientific lines of study, it is a much more beneficial form of exercise than calisthenics in a school room. While the Swedish system of manual training and gymnastics have been deemed worthy of study and adoption on this continent, for some reason gardening seems to have been overlooked, or it at least in some way escaped notice, since it is not until comparatively recent times that this occupation which is so important has come to the front.

People of all nations are recognizing as a truth that knowledge is for man a means to an end; true education is based on sympathy for fellow man and a widespread appreciation of nature, best gained through observation and continued self activity.

One who has for years been connected with work among children, when writing of the advantages to be derived by them from their gardens says: "The knowledge of nature which a child gets is another thing—nothing can take its place. The more interests a child is brought into touch with, the better able is he to choose a career suited to his ability and inclination. The city would be less crowded if more of its children knew what cultivating the soil really means."

It is not the children alone that need to be taught what "cultivation of the soil" really means, as parents need instruction and need it badly. It is not easy work to teach grown-ups, but children learn readily and in turn they become instructors of their parents.

Some one has aptly said: "We can only teach people what they want to know." However, children, if normal, usually seem to want to know something about almost everything, and this being true, it would be wise to consider the result on the next generation if gardens were available for the children.

It is not to be supposed for a moment that all children will gravitate to gardening the instant gardens are ready for their occupancy; but, leaving out of the question the percentage of those who have no personal bent, and also those who must be coaxed to try what they can do, there still remains a goodly army, which, if trained with an eye to the future, would justify even the most pessimistic in stating that the results would more than amply repay the efforts made to give the necessary training.

While many of Rousseau's theories were radical, few men have exercised greater influence on modern education, and the two principles which characterized his ideas of education are (*a*) That nature is to be studied and followed, (*b*) That education is an unbroken unity extending from early childhood to maturity.

The result to be derived from the lessons taught in the garden would be a new interest taken in the study of science, to the lasting benefit of the student because of the possible practical application of ascertained facts to the work in hand, thus creating a desire to follow the subjects even after the school days

are ended. One mother, whose children are so fortunate as to reside where school gardens flourish, remarked, "I can't understand why the children are so fascinated in the gardens. For years an encyclopedia has been in the house and rarely opened, but now it is in daily use. The children are constantly consulting it to see what it says about vegetables, insects and birds." This story obviously carries its own moral and therefore needs no further comment.

It is but a short step from gardening to another important department of education, viz., Domestic Science, for what girl or boy either is not alive to the fate of his garden stuff which has been laid on the home altar? It has been proved that boys as well as girls take great interest in learning how best to prepare their garden produce for the family use. To increase an interest in the right preparation of food is to help to introduce a better class of living and this leads to the improved health of the community.

Recreation Area.

There are parents who, when approached regarding granting their children some space for gardening, declare that if this becomes general, professional gardeners must suffer, though economists and committees of investigation agree that "a greater production of food stuff is imperative," and the high cost of living is being bemoaned on every side. It becomes the duty and the privilege of horticultural and kindred societies to help to educate such parents, by teaching them. Investigation shows that the food supply is not increasing as rapidly as the population.

The wants of the crowded inhabitants of the rapidly growing cities, and the demands for things once considered luxuries but now deemed necessities multiply as the industries there grow daily in size and numbers and it is authoritatively stated that the productiveness of the land does not keep pace with this. Home garden-

ing—intensive home gardening—rightly understood and conducted may be an important factor in helping to solve this problem as well as other perplexing ones connected especially with city life.

In a series of articles recently appearing in the *"Garden Magazine,"* the writer is proving the value of utilizing the back yard in such a way that its importance as a reducer of the high cost of living can no longer be doubted. He says: "A great many people go through life without doing anything systematically, and to this fact is the high cost of living partly due. The increased cost of living is not the only result of refusing to work in the garden. Our frail health, susceptibility to colds, and general decreased efficiency is primarily due to the fact that we have got out of the habit of exercising. Now let us get back to the earth again. We will win health and sport with our back yard garden while reducing the cost of living in addition."

John Locke believed that the right instruction in youth does not consist in cramming but unfolding, that the child's mind should develop like the young tree, from the impulse of its roots, and he said that a sound mind in a sound body was a short but full description of a happy state in this world. The attainment of this happy condition is the end of education.

"A sound mind in a sound body" is then the desired end to be striven after when considering the child problem, and the most important question to be solved to-day is that of dealing with the children that are more or less affected by the white plague. The question of outdoor work for all persons predisposed to tuberculosis—even those patients who have received their discharge from the Sanatorium as having been cured, or having the disease arrested, as well as those in the incipient stages, can be met by the development of gardening. In relation to this matter, a leading English writer says: "No one who has given the least attention to the advances made in the modern treatment of pulmonary tuberculosis can fail to recognize that the open air treatment has proved of immense value to sufferers from consumption . . . . Dr. Parsons, of Brampton Sanatorium, proves that even the success of the continental patterns of Sanatoria can be greatly enhanced by allowing the sufferers to work in the gardens. By giving them this healthy employment, they harden themselves, and instead of being confirmed idlers, they leave the institution vigorous in muscle, as well as healed of their lung troubles . . . . All minor ailments such as common colds, bronchitis, sore throat, headache, etc., are remediable by means of a life regulated in accordance with the principles of the open window. It can hardly be doubted, therefore, that if those exercises which take the form of outdoor games are in part replaced by the more primtive, and infinitely more profitable one, of gardening, the same excellent effects will result."

An American writer of note when dealing with this phase of the subject states that the dispensary and hospital can be effectively supplemented in this way, and two of the most troublesome factors in dealing with tubercular cases, viz., lack of support and separation of the family, can thus be eliminated.

Mr. Parsons in his book "Children's Gardens for Pleasure and Health," says: "In the garden is found work in the open air, various enough to fit any degree of strength and activity, and producing food for the body and beauty for the soul of mankind, while surrounded by such varying delights for every sensory nerve, as constantly to charm the dullest worker—even the deficient in understanding. For those whose minds demand problems, nature quietly surrounds them with her marvels and mysteries and with gentle natural steps leads their

intelligence from understanding to understanding, to bow at last with humble reverence before the Creator, and they find that in return for knowledge and obedience they are given a measure of control over wonderful forces and go forth among their fellow men thrice armed for success. The child comes naturally and gladly to this work, but the adult who has never known it is surrounded by the walls of habit and misconception that shut away beauties and delights that strive to reach him on every hand. To-day the child plays in the garden. To-morrow it works as an adult. The direction given to its plant to-day will decide how it will act in its work to-morrow. The garden teaches the child to think what he is doing and the manner of doing it. It teaches observation of how others work and leads to application of better methods to his own work; the value of orderliness and system for general economy and effectiveness: how to

Cannas. Photo by T. Cottle

direct his strength by education and thus direct others; and the value of planning a series of actions to obtain a desired result . . . The garden is an excellent place to learn the difference between true and false economy . . . a far deeper and broader national usefulness can be obtained from properly conducted children's gardens and it is this broader educational value which appeals to those who have watched the work. By taking advantage of the child's desire for muscular activity in the open air, at the age when the five senses are seeking expression and development, it can acquire valuable and useful knowledge in this garden work which appeals to it as play."

Froebel said: "I can convert children's activities, energies, amusements, occupations, all that goes by the name of play, into instruments for my purpose, and therefore transform play into work."

Gardens then stand for stronger bodies since both strong and weak can do *some* work in the garden.

This is the day of rush and hurry, and tuberculosis is not the only disease to be considered when studying the different problems connected with children's education and development, as nervous troubles are rapidly increasing. Those in a position to know, state that the most nervous children in the school room showed considerably more poise and balance in the garden and gained self reliance there in a marked manner.

A celebrated English physician and neurologist says that exercise of the muscles is absolutely necessary to develop a healthy brain, to prevent imbecility. "For all thought has a motor side or element."

Pestalozzi believed that self development begins with sensations received through the senses; sensations lead to perceptions, which, registered on the mind as conceptions or ideas constitute the basis of self knowledge. Spontaneity and self activity are the necessary conditions under which the mind educates itself and gains power and independence."

This thought permeates all the best education to-day, and the best education is that which strives for a harmonious combination of head, heart and hand.

In this new education *doing* is the means employed, *character building* rather than knowledge is the goal desired.

Ruskin said: "What we like determines what we are; and to teach taste is inevitably to form character."

It is an important fact and apt to be overlooked frequently that "much of life's course of study is furnished by environment and that its enrichment makes possible nobler tastes and more refined ideals."

The right application of nature study (and all that it embraces) to the education of children, is one of the most important developments of our day. We are learning more and more that the first endeavor of a school is "to teach people to live."

The two chief aims of education are to draw out individuality and personality. Although children are not conscious of the silent influence of the green plants and beautiful surroundings, this will be felt later in life and manifest itself in various ways.

Those who work among the slums in the vacant lot gardens say that the very association with plants and flowers has a decided influence on the children's language which is remarkable. It cannot then be too frequently repeated or impressed upon those interested in child development that "The brain should be trained in childhood not only by intellectual processes, but by the development of the smaller muscles, especially those of the hands, by the constant requisition upon sensory and motor nerves and by constant quickening of the sense of perception. The result is intellectual power."

In the garden the child's mind gets growth because it can understand the lessons taught there; then too, not only does the garden serve to educate and train, but it supplies a kind of knowledge that is useful in the highest degree, and a taste is cultivated here for an honorable and remunerative vocation.

The question is frequently asked "Are we not shown the vast importance of keeping the rural population away from towns? To keep them away from the gloom and temptations of large towns is what the wise ones wish to achieve. Well-tilled, wisely-worked farms and gardens bring prosperity, and a love of nature is gained too, which must exercise a most beneficial influence. Thoughtful people see the danger in the rush to the cities, and try, if possible, to counteract the disadvantages and undesirable results which inevitably follow. Work in the

garden, if it does nothing else, at least acts as a corrective to the all too prevalent contempt for work on the land.

In this age there is most undoubtedly a tendency to set up false standards of value and all because of the various erroneous notions as to "the superior dignity and value of city occupations and ways."

Philips Brooks' wise words are not heeded to-day: "Every occupation lifts itself with the enlarging life of him who practices it. The occupation that will not do this no man has a right to occupy himself about."

Abram Cowley who once wrote, "God the first garden made and the first city Cain," said: "Behold the original and primitive nobility of all those great persons who are too proud now, not only to till the ground, but almost to tread upon it. We may talk what we please of lilies, and lions rampant and spread eagles in fields d'or and d'argent; but, if heraldry were guarded by reason, a plow in a field arable would be the most noble and ancient arms."

A leading educator writes: "There is beyond a doubt a field for garden work not only in connection with the schools, but in the work of various organizations interested in social betterment and, especially, perhaps amongst those interested in agricultural development. For this reason it is highly fitting and proper that Boards of Agriculture, Horticulture and Florists' Societies, Improvement Leagues, Y.M.C.A.'s, Civic Clubs, and even Churches, should lend their aid in promoting the work.

Some parents scoff at the idea that the little back-yard garden can do all its advocates claim for it. There is a right way and a wrong way of doing everything and the garden is the place which offers opportunities for learning to think logically. Emerson said: "There is a best way of doing everything, if it be but to boil an egg," and in the garden where every movement can be thought out, the garden operations are performed thereby with the minimum expenditure of time and personal strength, and once children grasp the idea that there is a way of going about the simple garden task which is better than some other way and then apply this, a valuable lesson has been learned, one they do not forget, but which results in the application of the same reasoning to their other tasks all through their lives.

Where the parent's objection is the size of the available space, Miss Williams in her admirable little book "Gardens and Their Meanings," gives the best answer, since it is born of experience. She says: "There is indeed, all the more need for small beginnings, for it is these that convince the public . . . Even a tiny plot, hearth-rug size, can be made to do duty as a garden inasmuch as in these days of intensive farming the size of the farm is the very least of its assets. Says an expert gardener who heartily encourages the pocket edition garden: "No man knows yet the capacity for plant growth of one square yard of earth. Large fields then may be dispensed with but this cannot be said of large enthusiasms."

Parents must be taught all these things and more. They must be shown that gardens are established because it is expected that these in turn will develop into "laboratories for the production of health, pleasure and education," and all this means brighter homes and considerably reduced home expenses.

It is frankly stated that city life for children has come to be sadly empty of the real wholesome experiences such as trained the powers and developed the children of earlier generations. "School life deplorably reflects this barrenness of experience. Children cannot be made to grow into resourceful, dynamic men and women by the study of books." If they are to do anything as adults, they

must do something as children. One authority declares that "All successful education must take the child into account; the interest of the child should therefore dominate the selection of studies. Children are by nature good and spontaneous, possessed of self-activity. Their play must be directed and their work made attractive. Their education should come to them through close contact with nature, the using of their hands, and directed play."

The child's garden then is really the training ground helping to prepare that child to better play his part in the larger life of the world.

In "Gardens and Their Meaning," Miss Williams writes: "The sum total of experience shows, that it is the trained man, whether working on a gigantic scale or on a small one, who, all other things being equal from an economic standpoint, wins out."

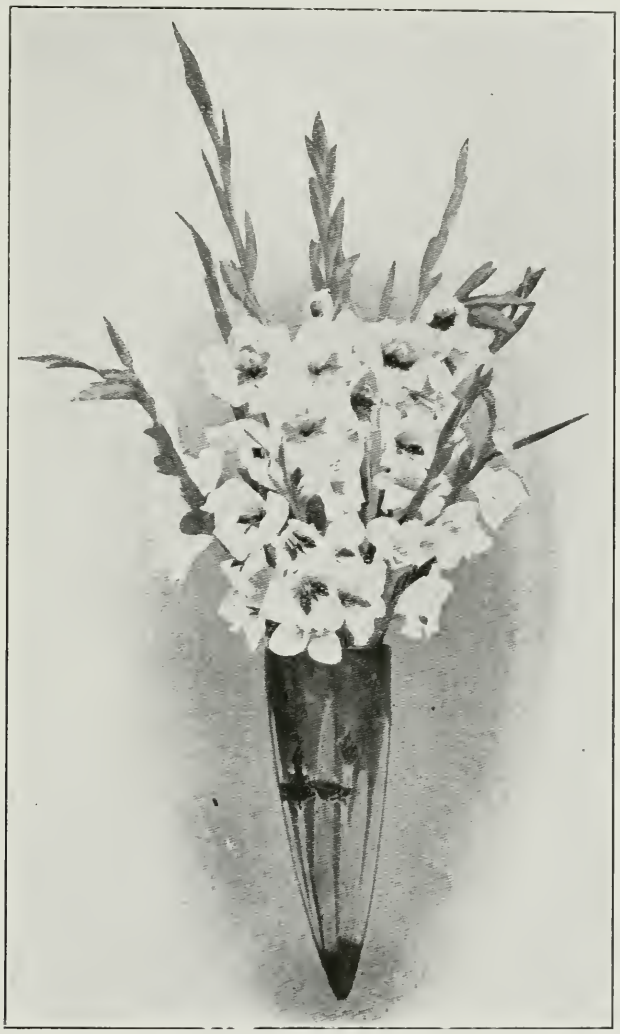
Mr. J. H. Smith, Inspector of Schools for Wentworth, in an address, when urging the establishment of school gardens throughout the country, said that while much had been said about the teaching of the three R's he had been thinking of the three H's and, as he considered the school garden in relation to the child's education, there were three salient features, viz., "It taught the hand to work, the head to plan and devise, the heart to govern and control."

Some parents hesitate fearing that gardening may prove to be such a fascination that other studies will suffer but so far it can be shown that such fears are groundless, and experience proves that instead of impeding the progress of study, the garden has been the means of creating fresh and unexpected desires for the pursuit of knowledge before unknown. It is surprising the number of people constantly to be met, who, in spite of all the opportunities to gain information on many important questions, remain absolutely ignorant, and so there are some to be found who confound school gardens with that branch of work known to the workers in the various philanthropic societies by the name of "kitchen garden." To break down walls of ignorance, to remove existing prejudice, to make possible practical demonstrations as to the value of gardening for children, is at least a worthy aim and at the same time a splendid opportunity for Horticultural Societies to find work in a very fruitful field.

A very interesting writer in an English journal says: "There is a period in the life of every boy and girl when they feel a desire to have a garden to plant and cultivate with their own hands. This desire may assume various shapes according to the nature and disposition of the child, and with some, perhaps, may be only of fleeting character. But making allowance for the fickleness of youth, enough of sterling, thoughtful material remains to produce, if properly utilized, an influence for good, not only on their own lives but also on all with whom they come in contact. Gardening, or the cultivation of plants and flowers, will not act on all alike, neither will its benefits be conferred on all to the same degree, but I am convinced from early experience and what has come under my observation since, that if, during a boy's or girl's early life, a love of gardening were engendered, it would develop into one of their greatest pleasures. In the same way as the trained eye can see in works of art beauties that are hidden from the untrained, so also, the man or woman, who has in early life learned to know and love plants and flowers, will derive more refined and lasting pleasures from the frequent changes that nature is constantly spreading out before them than they otherwise could do." Prof. Benedict of the University of Cincinnati, in a recent address spoke of visiting, when a lad, a certain region of country which possessed all the qualifications required for human habitation and prosperity,

but at the time of his visit, for hundreds of miles only desolation and decay could be seen, though there were millions of acres of fertile soil warmed by bright sunshine and watered by rain.

This place had once been the chosen home of an army of families, but one by one they became bankrupt, though some remained until actual starvation drove



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them to abandon their farms and homes and in this penniless condition to drift to other regions to begin life anew. The cause of this was not the fault of the land, neither was it due to any lack of energy, enthusiasm or effort on the part of the owners, but lack of knowledge—the specific knowledge of what kinds of crops should be planted and how to cultivate them when planted.

The necessity for more general and more intelligent use of the land is being insistently urged. Investigations show that where abandoned farms were supposed

to prove the worthlessness of the soil, in reality what was needed was a different or more intensive cultivation.

To again quote Miss Williams: "Space to let with power." This sign advertises the resources of a large machine show. Space with power. What words could better describe a garden. The space is self evident. The power no man has ever fully measured . . . all it needs is men who are skilful enough to guide it.

Thus looked upon, a garden is a great fact. We realize that its importance does not depend upon its size. Small plots may have large meanings. They may not only vitally affect the economics of a nation, but rightly understood, they give insight into the great movement of agriculture.

If an effort is made to look below the surface, it will not be difficult to find many children who would dearly love to have a little garden of their very own, but who have not the wherewithal to make it or furnish the beds even on a small scale. Besides this, they need instruction in the how, when, where and why, that constant failure may not produce such a crop of discouragements that all attempts will be abandoned for all future time.

Members of Horticultural Societies annually throw away as waste material what would serve as a splendid incentive to beginners, if some systematic arrangement could be made for its collection and distribution. The methods practiced by a Guild in New York with modifications, could be advantageously used by Societies to the inestimable benefit of many now lacking practical encouragement.

Mr. Lautis, instructor in school gardening, Cincinnati, in a paper read before the School Garden Association of America, recently claimed that home gardens must be established, if the best results from the school gardens are to be secured. His opinion is that the home garden is necessary to allow the child to exercise its individual taste, since the school garden is operated by set plans. The home garden by giving greater freedom creates a deeper interest and is less likely to lose its attractions. Inspector Smith, after this year's trial of school gardens in Wentworth County, states as his opinion that the home gardens *must* be encouraged. A prominent European educationist writes: "A proper school garden may, must and is destined to be the place where children are happiest . . . the eye and heart of the child shall open here to the beauty of nature from the lowest steps of learning and at the tenderest age: the attention will be at first partially excited and fastened here: a sense of poetical harmony and the institution of beauty must here fall fertilizing upon the young, soft soul. Will not the life-long effect of the pleasures enjoyed in the beauty of creation and the improvement gained in the school garden express themselves in the character? Surely a new race will thus issue from the schools, a race which will not look upon the earth as a vale of tears, but a beloved, habitable home in which a man of clear mind and joyous heart shall strive for his own and his neighbor's happiness."

Carlyle said: "Habit is our primal fundamental law; habit is the deepest law of human nature. Habit and imitation—there is nothing more perennial than those two. They are the source of all working, all apprenticeship, of all practice and all the learning in the world."

It is the privilege of Horticultural Societies to embrace the opportunity given to-day, to encourage in children the growth of such habits which will, if imitated, lead to the betterment of life for themselves and others.

Wordsworth, the High Priest of Nature, wrote:

Come forth into the light of things.
Let Nature be your teacher,
She has a world of ready wealth.
Our minds and hearts to bless—
Spontaneous wisdom breathed by health
Truth breathed by cheerfulness.

Nature never did betray
The heart that loved her; 'tis her privilege
Through all the years of this our life to lead
From joy to joy; for she can so inform
The mind that is within us, so impress
With quietness and beauty, and so feed
With lofty thoughts, that neither evil tongues,
Rash judgments, not the sneers of selfish men
Nor greetings where no kindness is nor all
The dreary intercourse of daily life
Shall e'er prevail against us or disturb our
Cheerful faith that all which we behold is full of blessings.

Miss Moyle: Mrs. Potts' paper shows such a trend of thought, such a wealth of information, and a heart so interested in the subject, that I think it deserved a much larger audience than it has had. It will, I presume, be published in the report, but that has only a limited circulation. Would it be possible to have it printed as a pamphlet and distributed to all the Horticultural Societies, and if possible sent to all school-teachers? This may appeal to women more than men. I had an experience last summer of what gardening will do for a child. In a small village about twelve miles away, living close to us, is a labouring man whose boy is ten years of age, who was supposed to be mentally defective. It was almost impossible to get him to go to school. In August I was putting out a number of melons. It was almost impossible to get a man there to do anything, and I was anxious to help this child, for I felt that he was not quite what we thought he was. I had melons in paper bags. I gave him tools to dig square holes, and I said to him: "Do you know why I put the sand there?" An almost inaudible "No" was the answer. I explained why it was. I told him about the flower within, and I showed him where to put it and how to put the sand over it, and he put them in without a word from me. During the fall he would come in to see if there was anything in the bulb. When September came, when school opened, he shouldered his bag and walked off to school, all of his own free will, a thing he had never done before. When I explained that I knew how to put bulbs in because I was reading books it dawned upon him that he must go to school to learn how to do things, and if I never did anything through my love of flowers but help that boy, it was worth while.

Wm. Hunt: We have not done our duty in not rising to speak of the splendid paper read by Mrs. Potts. Touching so forcibly upon Mr. Brown's paper, I think it is of special value. It is a question whether the money spent by our various societies is spent to the best advantage. After hearing Mrs. Potts' paper, and seeing what good can be done to young people, this Association should take some means to try and systematize a plan by which something can be put before the Convention, so that we can have some plan or idea of a mode of action, some system of working so that the money can be expended to the best advantage. I know everyone in the room appreciated the paper, and it should be in the hands of everyone interested in the youth of the country.

F. Chalcraft: As President of the Brantford Horticultural Society, it might be well to say that we have increased our membership from 161 in 1913 to

202 at the closing of the present year, and we propose to double it next year. I appreciated this paper because it is my privilege to be Superintendent of a Sunday School of four hundred pupils. I quite agree that if the Convention could see its way to have the paper printed and circulated we cannot tell how much good to the country it will do. I would be willing to contribute to the printing of this, if necessary, and many more would be willing to do the same. It is not often you read or hear the many good points so well put, and embodying so much. I hope I shall carry back some of them.

J. Lockie Wilson: If you pass a resolution here, asking the Minister of Agriculture to have the paper printed in pamphlet form, I will see that it goes to him, and that the printing is done—say twenty thousand copies.

H. J. Clarke: With regard to the paper, I believe the home garden is the thing. The children in a rural fair exhibited what was grown in the home garden, and the parents turned out in large numbers. The school there won the chief prize, and the exhibit was of sufficient merit to win $18 in prizes.

F. Chalcraft moved, seconded by I. A. Ebber: "That it is hereby requested by the Convention that the Minister of Agriculture provide twenty thousand copies of Mrs. Potts' address, to be printed and distributed throughout the Province of Ontario." Carried.

J. Lockie Wilson: Mr. J. P. Jaffray, our First Vice-President, has accepted the office of Dominion Government Commissioner at Philadelphia. We exceedingly regret his departure, as we all looked upon him as one of our most energetic workers for civic betterment. Our best wishes go with him in his new sphere of work, and we know that with his untiring energy and enthusiasm whatever he undertakes will be done. At my request he was good enough to forward me his impressions of horticultural work in the city in which he now resides. With your permission I will read his paper.

HORTICULTURAL WORK IN AN AMERICAN HORTICULTURAL CENTRE.

J. P. Jaffray, Philadelphia, Pa.

A residence of six weeks in Philadelphia has convinced me that the City of Brotherly Love is rich in men of public spirit, who labour zealously for the general good, and by their example in many fields of civic endeavour keep constantly in motion individual as well as collective enterprise, animated and inspired by the purposes which are bringing to the front in public agitations everywhere in America the promoters of the City Beautiful. Philadelphia received its greatest impetus in the cultivation of the æsthetic during the year of the Centennial Exhibition. From out of that prodigious project emerged a civic spirit indomitable in its determination to make the city one to which Americans, whether of the East or West, North or South, could point with pride. It is true that, woven into the activities of Centennial Year was the Great Past, of which Philadelphia, the Cradle of the Republic, is very proud. Undoubtedly, the city had the names of great personalities to conjure with. Ever before the promoters of the Centennial Exhibition was the roll-call of the First Continental Congress, while their eyes at the same time feasted upon the famous buildings that had grown into the heart of the city during one hundred years of progress. We may well believe that the citizens of

those days felt that their lines had been cast in pleasant places, and that as a tribute to their fathers and mothers their work should have an influence strong enough to carry it down the ages. The other day President Wilson rededicated Congress Hall, during the ceremony heartily and sincerely thanking Philadelphians for the regard shown an institution around which clustered so many memories national in character and stimulative of the highest patriotic motives.

But what have the people of Philadelphia been doing since the closing days of the Centennial? Building great civic works? Yes! Erecting sky-scrapers? Yes! But more than these things. It has been their ambition and delight to force into the public mind the lessons taught and absorbed in wonderful Fairmount Park, in which great breathing spot still stands the Horticultural Building of 1876, an educative centre that ministers to the cultivated mind of the trained horticulturist as well as leading the masses to take a deeper interest in the beautiful in nature. From that spot has undoubtedly radiated a refining influence that has had not a little effect in creating the thousands of well-planned and well-maintained suburban gardens to be seen encircling the city; with the further effect of equipping for the community a system of parks, squares and playgrounds, nearly one hundred in number, that give Philadelphia an enviable reputation as a city with most attractive landscape features. What more natural than that a City of Brotherly Love should have the oldest, wealthiest and most progressive Horticultural Society in the Republic, an outgrowth of the many commendable activities of her people? One finds in a succinct account of this Society that it was founded in 1827; that its first Hall, 75 x 200, was erected in 1867 at a cost of $80,000, a sum collected from citizens without much difficulty; that in 1881 this Hall was destroyed by fire and rebuilt on a larger scale; that in 1884 a citizen who had been the Society's President from 1867 to 1883 bequeathed to it $150,000 to pay off the indebtedness on the building; and that in 1893 the Society experienced a second fire. This disaster the Horticulturists bravely met. With their old-time energy and determination they cleared the ground for another and larger Hall, triumphantly opening the present ornate and substantial structure in 1895, expending $200,000 in the achievement. The main entrance of the Hall is from Broad Street, through spacious vestibules, with four additional entrances on adjacent streets. A grand stairway of marble leads from the first to the second floor, with its vaulted ceiling at a height of 35 feet. Marble pillars adorn the main Exhibition Room, and the appointment of the smaller ones are in keeping with the equipment throughout that has for many years made it a social centre patronized by leading organizations of the city and countryside. With the facilities in their possession, the members of the ancient and honourable Society easily manage to give their Fall Exhibition a position among the prime attractions of the season, this fall having entertained nearly 20,000 visitors, who enriched the Society's treasury by $5,000. Standing in the gallery at the east end, the visitor had an uninterrupted view as far as the platform at the west end of the building, nearly 200 feet away, of exhibits of chrysanthemums for which Philadelphia is famous. The extensive prize list contributed to by many wealthy people whose interest in horticulture never flags drew to the hall every competitor of note, with the resultant effect of placing before spectators a truly royal floral feast. Aside from the chrysanthemums, the most popular section is that devoted to orchids, one exhibitor standing good for no less than thirty-two varieties, which constituted the prize collection. The arrangement of exhibits bespoke the expert hand and eye. It could not have been improved upon, local critics were heard to say. So much for the Exhibition of this premier

Society, whose home, only a couple of blocks from the city hall, is valued at $800,000 to-day. No sooner was the public function brought to the close than citizens were made aware of the annual Civic Chrysanthemum Show at the Horticultural Building in Fairmount Park, the original Centennial Building. In the multiplicity of excellent things possessed and operated by the city along generous lines, this institution is not the least, giving one as it does, a fair idea of not only the resources of the governing body—a Park Commission—but also an object lesson in civic enterprise of uplifting character. Within Horticultural Hall, which contains the tropical plants placed there in 1876, are to-day 20,000 chrysanthemums of 75 varieties, banked to a height of 20 feet. From a point of vantage at one end of the hall the visitor looks down an avenue of radiant colors, the dazzling effect of which draws enthusiastic expressions from even the most phlegmatic, and just outside the building lies the sunken garden, extending for five hundred yards to

Photo: H. J. Moore.

A Beautiful Residential Street—Commonwealth Avenue, Boston.

the main highway, in which no less than 80,000 tulip bulbs have been planted—the usual number I am told. In its summer garb the sunken garden is unique in its quiet beauty and a feast for the critical eye.

Let me close by saying that a significant fact in connection with these exhibitions is that the men and women supporting and encouraging them lead the forces that have so far given Philadelphia eighty squares, playgrounds and parks, the whole system topped by the 2,700 acres of Fairmount. These citizens have in their mind's eye a more beautiful Philadelphia, and similarly the members of the Ontario Horticultural Society have drawn on the canvas of organized effort a picture of a more beautiful Ontario. If the leading men and women of Philadelphia find it profitable and helpful to their city to produce such results, in my humble opinion Torontonians should be equally as aggressive, determined and broad-minded, with a leaning to unselfish labour in the general interest. And not only Toronto, but every well ordered and ambitious municipality in the Province should be so served by its citizens of wealth, leisure and capacity. It is a duty they owe to them-

selves, to their children, to their less fortunate neighbours and to their country. Example has a powerful effect in converting the indifferent citizen into an active participant in civic improvement work, and I shall not apologize for the opinion I hold respecting the Ontario Horticultural Association that as an instrument I know of none better and none so successful in directing public attention to the benefits accruing from the development of these physical features that go to make a handsome and healthy town or city. Let the good work go on.

The thanks of the Convention were tendered Mr. Jaffray for his interesting address on horticultural work that is being accomplished by Philadelphians.

THE ORNAMENTATION OF TOWN BOULEVARDS.

H. J. Moore, Superintendent, Victoria Park, Niagara Falls.

The all important fact that towns of to-day will be the cities of to-morrow must exert a dominant influence in the ornamentation of their boulevards, for what we strictly define as boulevards, will as the towns expand become residential or other streets. Literally the term boulevard means a broad walk, promenade or broad street bordered with trees. It is therefore applicable to residential streets, and out-lying promenades or driveways alike, and as between boulevarded streets and boulevard proper there appears to be no strict line of demarcation, the ornamentation of one must be considered in its relationship to the other.

The fundamental principles of harmonious arrangement to which we must regard all others as tributary are as follows:

1. *Unity of Composition.* Every factor entering into the composition of the scheme must bear relationship to, and harmonize as closely as possible with other component parts so as to form a unified whole.

2. *Balance of parts.* As balance is the counterpart of order, we must recognize its value in every work of art; without this underlying principle, all work of beautification will tend to be grotesque.

3. *The predominant note of existing features such as buildings and masses of foliage, must be accepted as the keynote of arrangement.* Trees and shrubs should be arranged in masses of one kind and be in keeping as far as possible with architecture of building, and natural vegetation. This principle in its latter sense applies more so to outlying boulevards than to street.

4. *Consecutiveness.* It is imperative that we aim to group the various features in a natural and logical sequence, in which, while retaining its individuality, each would fill its place in the general scheme.

5. *The preservation of the worthy and the elimination of the undesirable.* We must study what to preserve and what to destroy, and where necessary by the application of the principles referred to, weave a web of dignity around and out of what we preserve.

Street proper and outlying boulevard demand different treatment, the environment of the former being artificial, that of the latter not entirely so, for often it embraces many natural features. We are thus forced to recognize two distinct styles of ornamentation, the formal or artificial, and the informal or naturalistic. For instance, while grouping of trees is inappropriate to the former, it often occurs naturally on the latter, and as the landscape architect's craft is to preserve as well as create he often finds it necessary to introduce groupings to afford

balance to some design. We must, however, not labor under the mistaken idea that the artificial and natural cannot be successfully combined, as it is quite possible, and at times necessary, to bring them into harmonious relationship.

The dignity of street or boulevard depends as much upon the architecture of its buildings as upon the trees or shrubs utilized to grace it, for are the buildings not the direct cause of all schemes of ornamentation? We build houses according to plans which embody principles more or less artistic, but in the ornamentation of our boulevards forget that certain principles, though simple, are equally necessary. All artistic work practically depends upon the principle of unity, and this applies equally to the planting of trees and shrubs as in the architecture of a building. For illustration let us consider the principle in the building of a house, and later apply it in our schemes of ornamentation.

There are two kinds of unities. (1) The unity of singleness. (2) The unity of wholeness. These constitute organic unity which is an essential of true art, and is simply artistic unity. Artistic unity embodies all the fundamental principles, and is not simple or obvious at first sight, for in it we must recognize multiplicity, and difference, a oneness of singleness, a oneness of wholeness, and in their unities must always have identity and always difference. If a house fails in one particular it cannot be beautiful. It fails to be a work of art. A house containing plate glass store windows in its lower story, while from the upper project Grecian pediment, architrave, and cornice is not beautiful; it lacks harmony in design, therefore organic unity, and as there are no means to connect the extremes it is not a work of art. Such architectural incongruities are far too common, and will remain so, until we recognize that the whole of art consists in the preservation of the mean between different extremes. In all true art we must emphasize the identity running through the differences, and also the differences in the identity, the former being the symmetrical in art, and the latter the picturesque.

Unity of singleness previously referred to is individuality. Without this a house cannot be beautiful, and, were it so, its beauty would be destroyed if house after house, all of one type of construction, succeeded each other, window and door, window and door *ad infinitum*, differing in no essential, and were street after street planted with one type of shade or ornamental tree their individuality would likewise be destroyed, and beauty of arrangement be unknown. The analogy is apparent, for in all planning to beautify town boulevards the creation of, or the preservation of the means to connect the extremes must be seriously considered, otherwise there will be too many differences and no correspondence between the various features. We must consider the town as a whole, not individual streets, for each street or boulevard is but a part of a design intended to be harmonious, and like an artistically designed house must embody the unities of singleness, and of wholeness, or in other words organic unity; if either of these principles are omitted, discord must supersede harmony.

A beautiful boulevard is an unit of a design preconceived, and only when a pre-conception of an intelligent mind takes definite form, organic unity, or harmony of arrangement can exist, for, as in music, when we fit together the parts we form a harmonious whole and create a normal state of completeness and order in the relation of things to each other.

If all the residential streets of a town were planted with one kind of shade tree, or if each were occupied by a mixture, the arrangement would be monotonous, for as the various streets were entered the same effect would be observed; this would jar the artistic sense, and create an undesirable impression. If towering elms were

planted along one side of a street, and maples on the other, the avenue would lack individuality, which we must have, for in it lies its imposing grandeur, and in its purity its adaptability. Such arrangements are inartistic, for again we have too many differences, and no correspondence between them. Mixed planting of avenue trees is undesirable, as it usually creates a patchwork quilt idea in the observer's mind. Trees of different shape and height with varied hues of foliage suggest natural grouping, but the incongruity of a natural arrangement on a city street is easy to understand, as nature did not make the street, neither does she plant trees in straight lines.

Wherever trees exist there is a continuous fight which results in the survival of the fittest. This is perfectly natural and in its proper sphere desirable, as under natural conditions through this cause many worthless and sickly trees succumb. On town or city streets where mixed planting has been adopted such a

A Beautiful Residential Street. Photo H. J. Moore

condition often prevails. Words fail to describe the unsightliness of many diseased and devitalized specimens. Here we observe a conifer with a few green branches at its upper extremity under the fostering care of a lordly elm, which literally saps its life's blood; there, overshadowed by a mammoth maple, a catalpa with lower limbs defoliated and dead. Still they stand all in line a monument to the folly of those responsible for the arrangement. On the boulevards of towns and cities trees grow under unnatural conditions. There should, therefore, be no case of survival of the fittest, every tree must be fit, be afforded the best possible conditions, and have equal chance with its neighbor.

Having realized that a mixed alignment of trees cannot be tolerated in any scheme we will consider what is probably the best method of boulevard planting, and the reason for its adoption. In all designs for beautifying town boulevards the utilitarian factors demand first attention: beauty of necessity must be secondary, but there is no reason why the useful thing may not be beautiful, so beautiful that to the casual observer its beauty would be supreme, and its utility to the critic alone revealed. Houses are useful and many are beautiful. Beauty in architecture has become an essential; it is a sign of evolution and portrays advanced

thought. Avenues of trees are planted because they are useful, but the simple arrangement of an avenue composed of one species or of one variety is also beautiful, and its charm is only to be found associated with the things which are naturally dignified in their simplicity. As we enter such streets or boulevards, call them what we will, varied beauty greets the eye as avenue after avenue in its arrangement, its mode of growth, and in its utmost simplicity, harmonizes so perfectly with its neighbor as to make discordancy unknown. Apart from this important consideration the arrangement is invaluable for economic reasons, as the trees require less labor to trim and spray, are easier to keep within bounds, out of danger from electric wires and projecting eaves, and, above all, they cast uniform shade which enables them to obtain what man cannot give, viz.: uniformity of light, air, and shower which is necessary for their development.

Trees should be so planted that their shadows fall on the street rather than on the houses, as during summer reflected light, or radiated heat are not respectively desirable to the eye, or conducive to bodily comfort. This view is perhaps purely practical. Shaded houses are not one degree cooler if the heat of midsummer is allowed to radiate from the glaring street, as by radiation alone the temperature is increased. The mistake of planting densely for the sake of obtaining all possible shade should be avoided; the result is that a proper circulation of air in the street is impossible. Amid such a tangled mass of foliage the rain with its beneficial and cleansing properties does not effectively penetrate, insect pests become rampant, the trees diseased and devitalized, as their breathing pores become clogged with soot and grime. In order to fulfill their purpose trees must be planted or spaced far enough apart, and be of such types as to allow air to circulate around them individually, and through their branches, or be so amenable to pruning as to be brought into this condition at will. We should plant to subdue direct sunlight, but never to exclude light or air, these are priceless; ventilation in any street is not perfect without the sunkissed air. Let us then emphasize again that shade on the street affords coolness to the atmosphere, but on the houses does not prevent the atmosphere of the street from increasing in warmth, neither does it lower their own temperature, as only radiated heat fills them. We need the light, air, and shade, but not the sombre shadow of the forest.

Factors to be considered in the selection of trees. Trees are planted for shade and ornament, and must, therefore, be discriminately selected. Their adaptability for their permanent position is an all important consideration. Many are not adapted to town conditions, and, while they live and endure, certainly do not attain their natural beauty of form. The perfect city tree is hard to find, but if we select those which approach the following standards our efforts to beautify our towns will certainly culminate in success. They should possess endurance, and the power to recuperate after heavy pruning, or excessive damage, be clean in habit, and of a type as far as possible immune from the attacks of any known insect pests, and fungoid diseases. Their shape and size of crown (which determines largely their ornamental and shading values), their ultimate size, manner and rate of growth, and permanency or length of life are the factors indicative of their desirability, and which determine their selection for wide or narrow boulevards as the case may be. As avenue planting is permanent, slow growing rather than fast growing trees should be utilized, those of large crown for the wider streets, and the smaller types for those which are narrow. Trees which possess unusual individuality should not be planted in rows, or as a component part of them. Their individuality is the secret of their beauty. Unusual things are only beautiful when

isolated. Were a million trees of the Weeping Willow arranged in line they could not impress us with the sense of the beauty which emanates from one lonely specimen by the side of a pool, or associated with a bridge over some running stream. Copper Beeches, and Conifers are likewise all inappropriate for avenues.

Trees suitable for planting on town boulevards. Where normal town conditions prevail the following trees are all suitable for boulevard planting. Acer dasycarpum: White or Silver Maple; A. platanoides, Norway Maple: A. saccharinum, Sugar or Rock Maple: Aesculus hippo-castanum, Horse Chestnut; Fraxinus excelsior, European Ash; Platanus orientalis, Oriental plane; Tilia Americana, Native Basswood; T. Europea, European Basswood or Linden; Ulmus Americana, American White Elm: and U. Campestris, English Elm. With the probable exception of the Oriental Plane these trees are perfectly hardy, but even

Photo: H. J. Moore

Effective Treatment of Promenade along Waterfront, Boston.

the Plane will stand thirty degrees below zero, and, being the most accommodating street tree, it should be utilized in all towns where the minimum temperature does not fall below this mark. The Horse Chestnut, while suitable for wide boulevards in many localities, is not to be generally recommended as a street tree proper, as it requires a deep moist soil and plenty of space. Unless such conditions can be afforded it is liable to the attacks of a fungus which causes a burnt appearance of the foliage during midsummer.

In towns with grimy, smoke-laden atmospheres we are restricted in our choice to trees more or less smoke resistant. Even under this handicap much can be done to ornament the streets by planting those which become inured to this condition. Of course, when poisonous gases pervade the air, vegetation will be injured or killed, and while smoke with its accompanying acids is harmful, many trees will for years withstand it, if carefully pruned, and thinned so that rain may remove the deleterious substances which clog the breathing pores, and that light may have full access, for dirt and grime are almost as injurious as the poisonous gases absorbed by the leaves, while the unnatural light of a smoky town is not conducive

to normal development. Platanus Orientalis stands first as a smoke resistant street tree. Being particularly amenable to pruning it may be cut back annually, its recuperative power enabling it to make splendid growth and a perfectly symmetrical crown in a single season. The European and American White Ash, and the Tulip Tree, although not so ornamental perhaps as the Plane, are excellent where polluted atmospheres exist. Many species of Poplar, while not desirable in many ways as street trees, are also smoke resistant; as are Elms and many Maples, but in lesser degree.

Harmony essential to dignity. In the ornamentation of residential streets the avenues must be considered in their relation to each other, and individually in their relation to the buildings, for they are but the connecting links between the extremes. In the centre we have the bare uninviting street built for utility, on each side stereotyped lines of buildings, many beautiful, many unsightly, but, like the street, built for utility. Stern and grim like soldiers in serried ranks they stand at right angles to God's great sky which alone affords relief, as in its varying moods of cloud and sunshine, we are reminded that the scene is not all artificial. But when we plant the trees artistically to give life, tone and ultimate harmony to the picture, how wondrously their soft greenery, how peerlessly their majestic forms subdue the harsh lines of the houses and street, what softening effects their shadows create upon an otherwise adamant roadway or glaring pavement, how marvellously the sky line is brought to mingle with the sterner lines of street and buildings, as among the foliage they melt away till all is harmony. When we feel that to eliminate trees, buildings of brick and mortar, concrete sidewalks, or paved streets, would detract from harmony, we have created a thing of permanent beauty, a work of art.

Dignified buildings adjacent to street or boulevard demand harmonious settings; their approaches, therefore, must be imposing, and in tune with other features. Narrow streets are not conducive to, and even detract from the dignity of classic building. Costly buildings of beautiful architecture should not be obscured, they should be placed if possible on wide streets, or at wide intersections, spacious enough to contain a central plaza, from which radiate diagonally streets beautified by avenues of trees, and other ornamental features. Library, museum, art gallery and city hall; are included in the category, not costly business buildings; these should be confined to business streets. It is not so difficult to create approaches to buildings on wide boulevards or to make these harmonious. Spacious lawns are always dignified, the reprehensible practice of indiscriminately planting mixed shrubs in or toward the centre of these, however, is intolerable, as they detract from the dignity of both building and lawn. Properly placed groupings of shrubs of one kind as screens or boundaries are in keeping with residences with small lawn space. Avenues of trees, however, should not be planted unless the residence is palatial and the grounds large enough to warrant this treatment, as in small areas they dominate the landscape, obscure all views, and usually spoil the lawn. The driveway from boulevard to residence should never occupy the centre of a small lawn if the beauty of the latter is to be preserved.

Every pretentious town should lay out some of its streets one hundred and fifty feet or so in width. If thirty feet of this in the centre were reserved for a double line of trees, and bordered by a protecting curb, a shaded pathway with the necessary seats could be accommodated therein, thirty feet of roadway on each side for traffic in both directions, and ten feet on the exterior of the roadway to contain curb, grass plot and a line of trees; twenty feet frontage for house and sidewalk

would still remain. In this manner magnificent avenues would be created, and at the wide intersections of such boulevards miniature parks to accommodate fountain, statue, or floral arrangement could be brought into existence, and here with all the beauty of architecture, and imposing grandeur of avenue, the dignity of harmony would be supreme.

The Outlying Boulevards. The outlying boulevards demand a different style of ornamentation than the internal ones. They are the links which connect the town with the country, the artificial with the natural; great care must, therefore, be exercised in their treatment, and nothing extreme be attempted. The area in width at the planter's disposal is the chief consideration; this is usually very small, perhaps less than two hundred feet, and where thirty feet is occupied by roadway it is best to arrange the trees in rows, especially where buildings are likely to be

Photo: H. J. Moore

Judicious Planting at a Boulevard Curve; nothing to obstruct the sight, and, therefore, little danger of collisions.

erected, for as the growth of the town radiates so must these boulevards become a part of it. Double rows should never be planted unless the length and width of area bordering the roadway affords an opportunity to make an imposing avenue. Where distances are limited, say, to less than five hundred feet single rows on each side of the road are desirable. Distances greater than this, however, are adapted for, and enhance the dignity of avenues composed of two rows on each side. This method of arrangement is not always the best, however. Local conditions are usually great factors in determining the style to be adopted. Trees are often planted in rows where an entirely different treatment is demanded. It is absolute folly to plant lines of trees or to allow existing trees to obscure a view, which is perhaps the only one. Let us first choose the view, and let not sentiment stay the hand which wields the axe. We must, however, be sure that nothing in the nature of factories, or unsightly buildings, will like mushrooms spring up, and deprive us forever of that for which we sacrificed the trees.

As uniformity pleases on the internal boulevards of a town so does variety on

its outlying ones. Too much variety, however, displeases the artistic sense, tending as it does to detract from the dignity of the whole, and without dignity, which is but simplicity, the arrangement would be inartistic. It is quite permissible to group shrubs along the boulevards to afford variety, and incidentally to bring the formal into relationship with the informal; but those of one species or of one variety should only be utilized in each group. Glaring contrasts of foliage or flower could thus be avoided. As the lines of the trees are formal so should the shape of the group be formal. The only informality noticeable would thus be the natural growth of the shrubs, which just creates a suspicion of the naturalistic, for again we must guard against extremes, and exercise care in the preservation of the mean. As the shrubs are grouped beneath, and in line with the trees, only shade bearers can satisfactorily be utilized.

The treatment of boulevard curves merits serious thought. Even in comparatively modern times landscape architects planned curves in driveways when such were unnecessary, but always created a reason for the detour by grouping trees or shrubs on the inside, thus subtly making the curve appear imperative. This arrangement though deceptive was usually most artistic, and created a pleasing effect. Since then our ideas have changed. The modern boulevard must be adapted for modern methods of travel. It is a dangerous practice to create sharp curves, and like that of obscuring a view around the inside of a curve should be considered criminal. Wherever curves exist no tree or shrub should be allowed to obscure the sight of advancing vehicles in either direction. Whatever the method of planting, the trees should be placed away from the road, and all shrubs utilized be of dwarf habit, or be so arranged that the dwarf types are planted in the concavity of the curve, and the larger ones disposed toward the rear, thus forming a gently rising line with only a straggling branch protruding here and there to relieve its stiffness. Such an arrangement would please, and not being obtrusive, would be justified.

Wherever width allows or where it is necessary to obscure unsightly objects, providing it is not likely to interfere with building operations, trees should be grouped, not arranged in lines. Deciduous trees or evergreens (conifers) may under such circumstances be used. Conifers, however, are not adapted to all locations. Care must thus be exercised in this respect, but if utilized they are very effective when grouped naturally some distance away from all other planting. One species, however, composing a group will be more pleasing than were a mixture employed.

Where deciduous trees are used to form screens they may be closely planted. Both shade givers and shade bearers should be utilized, the former being disposed far enough apart to allow the latter room to develop. This arrangement while answering its purpose also presents a pleasing effect, especially if subjects which naturally associate are chosen. The grouping method is also desirable on approaches which are elevated as on the side of a hill. A glance into a valley, for instance, is best appreciated when obtained through a vista of grouped trees, as everything between the view point and the horizon presents a massed effect, everything horizontally grouped. All grouping must be outlined after nature's pattern, the sinuate form of the natural woodland with its juttings of unequal length, its bays and recesses must be studied, and as far as possible imitated.

The proximity of the town will always exert a dominant influence in the style of ornamentation on the outlying boulevards. Whatever style, however, is adopted the aim must be to create a dignified approach. Dignity cannot live in cramped quarters, it requires length, breadth, height and depth to reveal its simplicity. A

dignified approach gives an impression of and is an indication of a clean and prosperous town, for would it not be incongruous were it otherwise? Consider for a moment an avenue composed of four rows of trees, two on each side of the roadway. At all times beautiful, not only in spring with bursting bud, in summer with garb of livid green, or in autumn with russet and gold, but also in winter's mantle of white, for then its beauty approaches the magnificent. Clearly silhouetted against a frosty sky the very beauty of the trees in their nakedness baffles human expression. Silent as the snow which caresses them, words fail to describe their imperious beauty as queenlike out of the haze, they rise to be crowned by the morning sun. An imposing avenue always reminds one of strength, every limb denotes it as it stretches out from the parent trunk in its unconscious grace, every tree in line forming a massive colonnade, silent, majestic, in its very grandeur sublime, and in its sublimity eloquently expressive of its purpose to lead

Photo: H. J. Moore

Wide Boulevard with natural and artificial features harmonizing so perfectly as to make it almost impossible to distinguish one from the other.

to something dignified. A town of miserable shacks would defeat the purpose of the most magnificent avenue ever conceived. As beautiful buildings demand an imposing approach so must the approaches to beautiful towns be imposing.

Organized Effort Essential to Successful Ornamentation. Consecutiveness obviously is essential to harmonious arrangement; this, however, can never be accomplished unless a properly organized department responsible for the work exists. Large towns should have a parks commission to whom the parks superintendent would be responsible, but when the latter's time is occupied with executive work he should not be expected to prepare detailed plans. It is, however, essential that he possess knowledge to properly maintain or carry out the work submitted to his charge. An irresponsible or untrained person in this position whose mind is incapable of grasping the technicalities will surely prove a failure in their practical application. The parks commission should secure the services of a consulting landscape architect of proven ability: otherwise there is danger of failure,

as the work may be done piece-meal, and without a conception of things ultimate. Without proper plans all works of ornamentation will be mediocre, undignified, and will as time sets its seal of maturity upon them express the utter folly of building without thought for the future, for if the fundamental principles of a scheme are lacking their lack will be revealed in its consummation.

Small towns without a parks superintendent should appoint a man with a knowledge of trees, shrubs and their uses to the council. Purely business men do not appreciate the beautiful which fact is evidenced in the array of bill-boards, hideous shacks and picture theatres of cheap construction on streets otherwise beautiful. These things are intolerant to beauty. Beautiful boulevards are not the handiwork of men who measure success in dollars and cents, but of those with beautiful thoughts and ideals, who take pleasure in the accomplishment of things worth while, who see beauty in tree, flower and blade of grass, for they, having studied, understand the combination which unlocks the door and unfolds their secret. These men recognize in beautiful natural things, the work of the infinite, and in building of classic architecture, the work of a master mind.

In order to attain uniformity of planting in small towns, the kinds of trees and their spacing could be designated by the councillor to residents desirous of planting on their lots: mixed planting will otherwise result and the trees be out of alignment. In subdivisions, likewise, he should supervise the planting, and give advice generally where required.

Practices Detrimental to Ornamentation. A detriment to the beautification of boulevards is the taxation of improved property out of all proportion to that which is unimproved. Vacant lots will not be beautified while taxes are high on the former, the solution being to decrease the taxes on improved lots, and increase them on those vacant, and unbeautified. The erection of factories and chemical works near residential sections should not be tolerated. Apart from their unsightliness, smoke and fumes emitted from them are deleterious to vegetation. Houses built out of line without restriction, and overhead wires on crooked wooden poles, are likewise factors detrimental to beautiful boulevards. All these things, not only detract from their beauty, but actually destroy the objects essential to it. In this connection I quote the words of Goethe: "The most beautiful must be taken care of; the useful will take care of itself." This is true in many things to-day, the pinch of necessity has forced the appropriation of enormous sums for the construction and maintenance of boulevard, road, or pavement, which being useful care for themselves, or in other words their necessity is the means of their upkeep. What about the features which adorn our boulevards? We have hardly realized their necessity or we would have considered them long ago. Utilitarianism has blinded our eyes to the beautiful, evidence of which we have in the number of trees butchered by the wire stringer. Many beautiful things are useful, but none more so than trees. We will, therefore, in time realize their necessity and so they will care for themselves. When we learn to love and protect the beautiful the problem of the ornamentation of our town boulevards will no longer exist.

The true theory of the ornamentation of our town boulevards may be summed up in the words of someone who said:

> "To build, to plant, whatever you intend,
> To rear the column or the arch to bend,
> To swell the terrace, or to sink the grot,
> In all, let nature never be forgot;

But treat the goddess like a modest fair,
Nor overdress, nor leave her wholly bare;
Let not each beauty everywhere be spy'd
When half the skill is decently to hide,
He gains all points who pleasingly confounds,
Surprises, varies, and conceals the bounds."

R. B. Watrous: In some of the States we have a system—in New Jersey, for instance—making it possible to have a commissioner to have entire charge of the trees, and if you are not familiar with the work of such a commission, if you correspond with the Street Commissioner of Newark, N.J., he will be glad to send you pamphlets of that commission, and give you suggestions that will be useful.

J. Lockie Wilson: In Toronto we have a number of chestnut trees which seem to get rusty and dirty and the leaves fall early. What is the cause? Many of them are not really good shade trees.

H. J. Moore: The cause of the trouble is lack of water. I have noticed on several occasions in Queen Victoria Park, where spray falls five days out of the seven, whenever it is very dry the chestnut trees present the appearance which you have described and become rusty. It is quite essential to water trees on city streets.

C. W. Nash: The streets are asphalt, and in consequence the water rushes down into the sewers and the trees lose their leaves about July.

H. J. Moore: That condition will ultimately result in the death of the trees, or considerably reduce their life period. Every tree on a city street should have nine square feet of soil, with 4 ft. depth. The curb should not be nearer than four feet.

"THE HOUSING QUESTION."

Illustrated Address by R. B. Watrous, Secretary, American Civic Association.

Mr. R. B. Watrous, in an address describing a European tour, illustrated his remarks with a series of artistic and beautifully executed limelight views. In the course of his remarks, he said: I have been very anxious to come to this meeting. We hope you will send delegates to all of our conventions. The pictures I am going to show are based on some observations I made this summer in company with a group of Americans, who went under the auspices of the Civic Association, to obtain information for the benefit of our American communities. We spent eight days in England, saw a great deal that was very helpful, and brought back reports and bulletins which will be useful at our next Convention. "The making of a bit of God's earth beautiful for generations ahead." That picture has come from England, and shows the development of its garden cities. That is due to the great growth of the large commercial centres like London, Liverpool and Manchester, great and populous cities, and in response to the demand that people should get away from the bustle of commercial life. Those are grown-up garden cities. Hampstead is a beautiful community, run on the co-operative plan, a company controlling the property and renting the houses at low rates. The workers reach their houses by overhead and underground railways. The second picture I show you is an industrial garden city, such as you find on the outskirts of Liverpool. This lake, however, is a lake at Hampstead. I spent an afternoon

there with Henry Vivian. The houses have accommodation for small families, at a rental from three or four dollars per week up to sixty or seventy dollars per month. They have no fences, but shrubs, privet and box hedges. In the second class, illustrated by Port Sunlight, is the garden city. I show you this map. It is laid out by a landscape architect, and one of the things about Letchworth is that in building a town they have secured an outlying area, to be de-

Photo: H. J. Moore

Harmony—an effective setting to a boulevard bridge.

veloped as agricultural land to produce what is necessary, they providing the markets. The real garden city has grown up out of the country district, bringing to itself manufacturing plants and providing homes for the people. It has ten or eleven different manufactures, and is forty miles from London. I heard an Englishman say that in ten years it might be forgotten. A manufacturing plant grows up with a town in its own way. It remains to be seen whether they can do it.

I next show you a garden city in Germany, but I came away with a very poor impression of the home life of Berlin. The people there seemed to have the impression that this was "God's Country," when I said I came from America.

Pictures of the houses owned, operated, and rented by the Whitehall estate were next shown.

Parliament allows the London County Council to buy property, build houses and rent them. I cannot make myself believe that it is a bad thing for our great cities to undertake to build and rent houses to people who need that kind of help. The erection of houses of this kind makes families from thickly populated parts of the city go to the country. These groups of houses shown on the screen are built to last sixty years. The people are not exactly the labouring classes. They are coachmen, firemen and some clerks, but the rule of the County Council is that they must be of the working classes. Here is one bit of philanthropy by a man who gave seven acres of land, a splendid example of municipal houses.

In Germany, in Essen, where the Krupp works exist, a bit of philanthropy is seen at Margaret's Hill, called after the daughter of one of the Krupps. Three hundred acres have been laid out with winding streets, provision being made from the funds for the development of the town. Plans of Essen with the dwellings therein were then shown.

But, after all, I never saw so much smoke as at Essen. Some of the streets conform to some of those in ancient towns. They are thoroughfares with no grass plots in front. Some of these houses are single, others detached, while others are in rows, designed to accommodate families at low rates. They are heated with a stove in summer, which is changed into a furnace in winter.

Pictures were next shown depicting stone entrances and window boxes.

I never saw so many flower-boxes as in Hamburg and Dresden which are noted for these. We want to be close to nature. In Margaret's Hill there is a splendid Market Square, with fountains for families. There are also "community houses," where there are restaurants and social features.

A pretty railway station at Dresden was next shown on the screen. Germans are coming to an appreciation of country life slower than they are in England. A picture of a new boulevard with a large apartment house, showing virginia creeper. This runs for a mile, and they grow rose bushes in the same way.

Our idea in America has been to make the homes we have more beautiful. We have hideous rows of houses, yet you will see the sign hung out: "One hundred ideal homes." They are not homes, they are houses.

The next illustration showed how homes are beautified and made artistic; effects in the grouping of flowers, such as wistaria and spirea, being trained against the foundations. Other pictures showed the lovely effect of roses on a porch.

Now I come to wistaria. Have you it in Canada? Well, I never saw it in Wisconsin, and I am delighted that you have it here. I thank you very much for your attention.

The views shown by Mr. Watrous were very attractive, and many hints were gleaned which will be of value to those present from the different sections of Ontario.

WILD LIFE ABOUT HOME

C. W. Nash, Toronto.

It is a pity Mr. Watrous was hurried in the way he was. I have not heard anything quite so educational as his address for a long time, and I do not know any place where education of that sort is needed more than in this city of Toronto. It seems to me that Mr. Watrous and Mr. Moore have been poking Toronto up, and very properly, too.

I listened attentively to Mr. Moore's paper. Before writing it he must have gone over the city and accurately observed our deficiencies in the matter of laying out streets, parks, and other public properties. His satirical criticism of the City Hall, the grounds surrounding it, and its beautiful environment should have been heard by our civic authorities, though I do not suppose it would have done them any good, for they do not seem to put into practice good ideas when laid before them.

Blessed is the man who has a hobby; something that will take him out of himself. Something he can turn his attention to over and above the occupation he is engaged in, and thrice blessed is that man whose hobby is gardening. When a man acquires a garden hobby he never gets over it. The older he grows, the more enthusiastic he becomes; and, the greater his knowledge of it, the more he studies it. It is a ruling passion which lasts until death. What a relief from care it is to have a garden and be a gardener. No matter what goes wrong you go to the garden and find consolation. If your wife scolds you and you dare not talk back, you can go to the flowers and shrubs and tell them all about it; and, should your spirit be so much disturbed as to require action to calm it, you can seize a hoe and work off your temper on the weeds. There are but few passions like gardening. One is fishing. One may be a gardener and a fisherman too, but that is an embarrassment of riches. I made a remark to this effect to Mr. J. Lockie Wilson the other day and he agreed with me. It is not, however, a habit of his to do so, but he added an amendment. He said: "Yes, gardening is better than fishing, because a man does not have to lie about it." You are the judges. Does Mr. J. Lockie Wilson know anything about amateur suburban gardening? Not a thing. Come down town on the street car early next May with a lot of amateur gardeners. What is the conversation? How is your garden? How is it doing? "Oh, fine." "I have radishes as big as 50 cent. pieces." "I have asparagus as thick as your wrist." You venture to suggest that some discount should come off this, and in the end may arrive at something near a correct statement, which would mean that the radishes had not yet attained the dimensions of a five cent piece. The asparagus is nearly as large as a lead pencil, and the lettuce is nicely up. That is not lying. Oh, no. But if you say a two pound bass is a five-pounder that is a fish lie.

Nothing in the world can give a man greater satisfaction than the cultivation of the gardening hobby. What an immense number of interesting things there are to contemplate and to study in even a town garden twenty-five feet by one hundred. Plants and flowers of course there are. Insects of many kinds and varying habits, all well worth considering. Birds which if protected and encouraged will become almost familiar friends as well as helpful allies and many other forms of life which, though usually unnoticed, are important factors in nature's economy. In fact, a garden is a little world in itself. In it an observant

man can see worked out in miniature the operation of nature's great laws which govern the universe.

When cultivating your flowers do you ever think of the great miracle that is being performed day after day as those flowers are growing? I wish I was a preacher. If I was, I would sometimes take for my text "Consider the lilies, how they grow," and I would stop there. Then I would point out what is taking place to produce growth in a plant. I would try to show how from a seemingly dead, inert seed, a living, beautiful organism is, stage by stage, developed. It is a miracle, one of the greatest that the mind of man can contemplate. But concisely, it means that, through the plant, dead mineral matter is converted into

Syrphus Flies.
The larvæ of these flies feed on plant lice.

Harpalus Beetle. | Fiery Hunter Beetle. | Green Hunter Beetle.

These beetles feed largely on soft-bodied caterpillars, cutworms, and the larvæ of the potato beetle.

living tissues. How, we do not know. We do not know what life is: no microscope can show it, nor can we analyze it out of matter. We can trace it from its apparent beginning, but that is all. Take a little seed—a dead, dry thing in outward appearance—put it into the ground. There under the influence of warmth and moisture life begins. A little root is pushed downward into the soil, and cotyledons appear above the surface, then leaves come. So the marvellous transformation goes on, the plant taking minerals from the soil and carbon from the air, converting these into protoplasm and adding cell to cell: and so it develops, each plant according to the form provided by nature. How is all this done? That we do not yet know. All we can say with certainty is that the plant must have mineral matters in solution from the soil and carbon from the air, and that

under the influence of sunlight these are combined, certain chemical changes take place and living cells are formed which build up the plant. A plant utilizes among other things mineral nitrogen. An animal cannot do this. There is the great distinction between vegetable and animal life. All animals must have nitrogen in organic form and they obtain it directly or indirectly from plants.

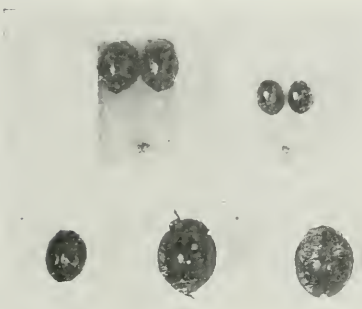
I have said already that you have other things in your garden besides plants. Sometimes this fact is impressed upon you most unpleasantly when you discover that a lot of recently transplanted annuals or well grown seedlings are cut off just above the soil and are lying dead on the beds. A man gardener at such times usually makes sundry vigorous remarks about the authors of the mischief. A lady is in a bad fix. It is not possible that she should do justice to the occasion. A married lady has an advantage here, she gets her husband and tells him to "Come right out and say the proper thing about this," and he does, too. Cutworms have been at work, though you did not see them. They hide during the day beneath the surface, come out after dark and eat out a section through the stem of each small plant they attack, utterly destroying it. Turn over the soil beside the plants killed, and you will find the culprits comfortably coiled up sleeping off their ill-gotten meal. Having found them, I need not tell you what to do with them. Your feelings will prompt the correct action. You realize now that there are insects in the garden, bugs some people call them—a horrible name suggestive of unpleasant things. Insects they are, lots of them; many injurious and others very beneficial. Do not be rash now, and because you have suffered an injury from one species wage indiscriminate war against all. If you do so you will certainly destroy many of your best friends. Most people have the idea that all insects are a bad lot, and should be "squashed" at every opportunity. That is not quite correct. Many injurious species are abundant, and the damage done by them is readily seen. Beneficial species usually work quietly and unobtrusively, but, at the same time, are a most effective check upon the undue increase of injurious forms.

Every part of a plant as it is growing is liable to be attacked by some form of insect, from the root up to the fruit, and there seldom comes a season but you find a new enemy or two which attack you in a way you had never anticipated. For several years I grew fancy Aquilegias, and no insect seemed to trouble them, so I thought they were immune. One season many of them looked sickly, and only threw up a few poor blossom stalks, and in August they died. Upon examination I found that a borer had completely eaten out the crown of each. At this time the borer had pupated and the chrysalids were there. I kept them and in September the moths emerged. They were *Gortyna purpurifascia*, an insect I had never previously seen. Since that time I have had further experience with the same Aquilegia borer; but, knowing its habits, I lose no more plants.

Beneath the surface there are wire worms, larvæ of click beetles; cut-worms, larvæ of several species of Noctuid moths; white grubs, larvæ of the Irene beetle; a smaller but somewhat similar white grub, larvæ of the rose beetle, and root maggots of several kinds. All these feed on the roots of plants or eat a section through the stem. They are very difficult to control, constant vigilance and digging out by hand being the best remedy in small gardens for all but root maggots. Folding a small roll of paper round the plant is good as a protection against cut-worms, but in field culture that is impracticable. However, bran moistened with sweetened water and poisoned with paris green is effective. Frequent water-

ing with strong soap and water, one pound to a gallon, is the best deterrent you can use for root maggots.

Above the crown the stems of large plants are attacked by another borer, *Gortyna cataphracta*. Near Toronto this insect is altogether too abundant; it bores into the stems of dahlias and all other herbaceous plants large enough to contain it. The moth deposits its eggs in the fall, and when first hatched the following spring the caterpillar feeds on leaves until it is about one-fourth of an inch long, then it bores into the stem. Some day you notice a dahlia dying, or perhaps only a branch of it may be drooping. Close examination shows a hole through which the creature entered, and inside you will find a wriggling caterpillar of this moth. Cut off the branch and destroy it. If, however, you find where a borer has entered before it has had time to injure the plant you may kill the insect by injecting a little gasoline or benzine into the hole. This larva



A group of Lady beetles. They all destroy plant lice and scale insects.

Top row, Soldier bug, feeds on larvæ of potato beetle.

Lower figure, Assassin bug, feeds on soft-bodied insects.

has one redeeming feature, and that is it feeds on the Burdock. Of course you are all good gardeners and have no such weeds; but as this fellow has the ability to reduce the crop of Burdock seed I wish he would hire out to the council of the city of Toronto and clear the Burdocks off the vacant lots in this town at the proper time.

It would be impossible to-night to enumerate all the insects which prey upon the leaves and twigs of plants; they creep, they crawl, they fly, and their name is legion. Among the worst are those wretched plant lice—the aphides. There are green ones, black ones, and bright scarlet ones on the golden glow. There are shiny ones and woolly ones; all are alike in their sap-sucking destructiveness. Fortunately they are comparatively easily kept in check on garden plants if taken in time. A good dose of whale oil soap, one pound to five gallons of water sprayed over them will get rid of them; two pounds of common hard soap to the same quantity of water will answer the purpose equally well. For house plants a little soap and water sprayed with a small perfume atomizer will have the desired effect. I have found that for ordinary garden purpose an insect powder bellows charged with pyrethrum is the most effective weapon that can be used against the smaller insects. It is safe, cleanly, always ready, and not too expensive.

I wish to call your attention to the fact that all the insects you see in the garden are not injurious. On the contrary, many are among your best friends. Bear this in mind and learn to discriminate between the injurious and beneficial. If you do that, you will probably see that one class acts as a check upon the other and assists materially in the production of your garden.

During the past two or three years an insect has become rather abundant throughout the Provinces which promises to be a very great blessing to every man who grows potatoes. This is one of the true bugs, *Perillus clausus*. It has not yet become sufficiently well-known to have an English name. It feeds largely of the larvæ of the potato beetle, and seems generally distributed throughout southern Ontario west of Toronto, for I have had many specimens sent to me for identification by farmers in that district. In some places they were so abundant that potato growers did not require to use paris green to protect the crop.

The insect itself is not a particularly noticeable one. It is much the same shape and size as the common stink bug found on raspberry bushes, but is black marked on the back with red or cream colored lines. There is none other just like it. You will, probably, find it about potato plants next season. I have also found it about this city doing another good work. It was upon the trunks of trees feeding on the larvæ of the tussock moth. It probably came to the conclusion that the council of the city and its officials were utterly incapable of dealing with such a plague, and so came here and took a hand in the game. I hope it will stay, because it is likely to do more than they have ever done to abate the pest.

I spoke just now of aphides. This year I happened to want some. I was trying to raise some tree frogs, and required some aphides to feed them with. Early in the season I found several colonies on the apple trees, the usual scarlet one on the golden glow, and some black ones on the plants. As I should need a great many I left them to increase and multiply, which, as you know, they generally do altogether too fast; but, because I wanted them, did they do so? No, they did not, but it was not their fault. The aphides would have been all right had they been left alone. A Syrphus fly, however, intervened, and spoiled the proposition. You know the flies that hover continually about flowers. They look something like small wasps. These are Syrphus flies, and are among our best friends. Some of these flies deposited their eggs among my colonies of aphides, and in a little while the colonies began to decrease instead of increasing. For a time I did not see the reason for this, but supposed it to be just the ordinary "contrariness of things." One day, however, on making close examination, I discovered several curious maggot-like creatures crawling among the remaining aphides, upon which they were feeding ravenously. My colonies were soon completely wiped out, and I had to go further afield for a supply of frog food. To my great surprise almost every colony of aphides I found was attacked by the larvæ of Syrphus flies, with the result that aphides which promised to be injuriously abundant early in the season dwindled away and were gone before the summer was over. There is a group of small beetles usually well represented in even the smallest garden. I refer to the lady beetles or lady birds, as they are sometimes called. There are many species of them, but, as the family resemblance is strong, they are easily recognized. They differ in size and in the number of spots on the wing cases more than in any other respect. All of them are plant protectors, and their food in all stages consists of aphides and scale

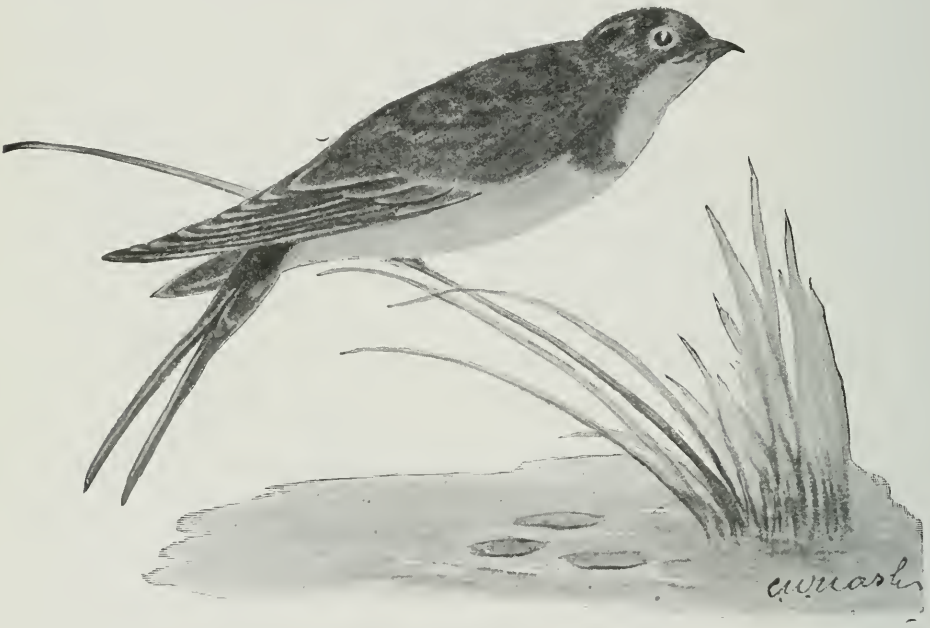
insects. Like the Syrphus flies they deposit their eggs among colonies of their prey, and the larvæ as soon as hatched begin the work of destroying these prolific pests. About twelve years ago the maple trees in this city were attacked by the maple aphis. So abundant were the pests that the sap sucked by them from the trees dripped down on the side walks and kept them damp. People soon began to notice this and thought we were going to lose our maples, and, as people always do when they fear trouble, they wrote to the newspapers. The aphides do not take the newspapers, and kept on doing business at the same old stand. The City Council was stirred up, which was a wonder. They discussed

Phoebe.

the matter in their usual ponderous fashion, and I believe passed a resolution to take the matter into "serious consideration." You can imagine what terrible consternation that would cause in the aphis world; but still the little wretches went on doing business. More letters, more meetings of Council, more resolutions. Still the aphides continued increasing, multiplying and pumping sap. Then arrived a lot of fifteen spot lady beetles. They made no noise, did not advertise. Not a thing did they do to invoke the power of the press. They just laid eggs among the colonies of plant lice, and the larvæ when hatched gobbled them up, and before you knew anything was happening the plague was abated and the maples saved. As soon as the aphides were all devoured the larvæ of the lady beetles were to be seen everywhere. They came down from the

trees and went through their transformations. When the adults emerged from the pupa cases they scattered, and in two weeks after there was only the usual number to be seen, showing that, even among the lower orders of animal life, the rule prevails that where food is abundant there they will gather together and increase and multiply in a very much more rapid way than under ordinary circumstances, until they have brought back the all important balance of nature between all forms of life.

Should you happen to turn over some old boards, dead leaves or other rubbish you will be likely to find a number of bright, active beetles which will hastily scurry for cover. Two of these are very noticeable. One is a large bright emerald insect, the other is black with rows of little copper dots on the wing cases. Others are not distinctly marked in any way. They are black or brown, or maybe iridescent with bright metallic colors. All these beetles are predaceous, feeding



Barn Swallow.

on other insects, and their business underneath the boards is partly to hide from the light of the sun and partly to find cut-worms and other soft-bodied creatures which shelter in such places. When you see these, let them go; do not harm them on any account. They are protectors of your plants. A friend of mine complained of a big potato bug which he had found in his garden on the island. The "biggest fellow," he said, he had ever seen. He thought it was all over with his potato crop. I told him he had better let me see one before he started a general massacre. The next day he brought in several he had killed. They proved to be the large green hunter beetle, and they were on his potatoes for the purpose of feeding on the larvæ of the potato beetle and were valuable protectors of the plant. My friend would have killed them. Such is the ingratitude of the white man. The Indian says: "White man very uncertain." He is, and quite likely to make mistakes if he does not take the trouble to look into the habits of his fellow citizens of the garden.

There are a great many insects that are beneficial to us directly or indirectly. Some are essential factors in the pollination of blossoms, but I have not time to go over them now. All our butterflies are liable to visit you, and by their bright colors and graceful flight add much to the beauty of the garden. Occasionally you will be fortunate enough to receive a visit from a very rare species. For many years I hunted in vain for the large swallow-tail butterfly, the *Cresphontes,* and at last found it in my own garden feeding on the blossoms of perennial phlox. Of all our butterflies only two do any harm. The white cabbage butterfly, the larvæ of which feed on all plants of the cabbage family and are also extremely injurious to mignonette, nasturtiums, etc.: and the black swallow-tail, which deposits its eggs on parsley, carrots and plants of that character. They are seldom sufficiently abundant to do any harm. Moths themselves do no injury, but some of them deposit eggs from which are produced the pernicious cut-worm, the worst enemy we have.

As against plant-eating insects we have one force in nature which would, if properly cared for, preserve the product of our garden fields and orchards. This is birds. They are highly specialized for this purpose and would, under natural conditions, keep in proper check vegetable feeding insects.

There is no garden anywhere, no matter how small, but what birds would frequent if they felt perfectly safe and free from persecution. The great trouble in the city is that, while people themselves are not liable to persecute birds, some of them will keep that four-footed, long-tailed, musical beast the cat, which does persecute them. There is no greater curse to the community than that same domestic cat. Some birds are really anxious to attach themselves to our gardens and buildings. The House Wren will accommodate itself anywhere if not driven off. If you put up a little box five inches by eight inches, say, with a hole in it about one and one-half inches in diameter some house-hunting Wren passing through the neighborhood will most likely take possession of it and will stay and raise two families in it. Wrens have been watched and found to visit their young forty times an hour from daylight to dark. They take small insects and usually carry several each time to their young. That means preventing a good deal of injury, especially when taking young caterpillars. Where they raise two broods, their good work extends nearly entirely through the growing season. Besides that you have the song of the bird—a bold, brave little soul and singer he is, too. The Sparrow he defies, human beings he becomes familiar with and will trust, but cats he abominates, and shows his good taste by keeping as far from them as possible. The Phoebe is another that is almost domesticated. They build anywhere they can lodge a nest, usually against the outside of a building. Sometimes they will go inside and, like the wren, will come back year after year to the same place. The Phoebe is particularly valuable because it catches its prey on the wing. The capture of one female moth before she has deposited her eggs equals the destruction of some three to four hundred caterpillars. You may not notice what is being done, but the effect is there.

The Robin is another valuable friend, though growers of small fruit do not always like the bird. A large market gardener told me his losses from cut-worms were terrible, especially among his tomatoes. I asked him why he lost so much stuff there. Where are the Robins? He said: "How can we have Robins, when a big fool over here brags that he shot three hundred this spring." The man who shot Robins grew cherries, and as soon as the Robins came in the spring he shot all he could in order to prevent them nesting near him. The

Robin does eat cherries, but start at the beginning of the season and see what else they do. They arrive at the end of March, and, from the very first, feed upon insects that live just beneath the surface of the soil and upon earth worms. I have examined the stomachs of a great many Robins in the early part of the season and have always found them filled with wire worms, cut-worms, white grubs and fly larvæ. Robins start breeding early and raise on the average about four young to the nest. These are fed upon the same class of insects, and, as each young one requires about its own weight of food every day, the number consumed is enormous. Cut-worms, when fully developed, average about thirty to the ounce. A young Robin when ready to leave the nest weighs about three ounces. The young are usually twelve days in the nest. Calculate how much

House Wren.

the whole brood have destroyed, and you will get an idea of the value of this abused bird. When the young have left the nest the small fruit trouble arises. How much of this will each Robin eat? Certainly not five cents' worth in the season. A man must be very short-sighted if he will not spare five cents' worth of cherries as pay for the protection afforded to his more important crops. Every day each bird lives it will save far more than twice that. A single cut-worm in a night mows down several plants, the number variating according to the size of the plant, and it will do this every night during its larval career, unless stopped, and each Robin cuts short the life of many every day. Besides the Robin there are other ground feeders which assist in the good work—all the thrushes, catbirds, many of our native sparrows, blackbirds, meadow larks, and others. Blackbirds are not to be commended, for though they do some good while the young are in the nest, they do much harm later on. A few common red cherries or mulberries grown around a fruit garden will form a greater attraction to birds than fruit of better quality. It is a good plan, therefore, to supply a few of the

preferred sorts for the birds' use. In that way you save the choice varieties and at the same time have the birds' services as insect destroyers.

The Swallows are a most interesting and valuable family of birds. Among them three species are strongly disposed to be friendly with men. Until the House Sparrow dispossessed them of their nesting places, Purple Martins, Barn Swallows, and White Breasted Swallows regularly built their nests in and about our buildings. They all feed almost exclusively upon winged insects, of which mosquitoes, house flies, and winged aphides form no inconsiderable part. How many individuals of these small but aggravating creatures a brood of Swallows would remove from the air in a day would be hard to ascertain. Certain it is, that

Rose-breasted Grosbeak.

Swallows, when young, like all other insect-eaters, require about their own weight of food every day. A fully developed young Swallow will weigh about two ounces. To figure this problem out some enterprising young mathematician may catch enough mosquitoes to make an ounce, count them and let me know the results. The Chimney Swift feeds in the same way, and, as it prefers chimneys to any other nesting place, also assists in keeping the air free from insects which are annoying to us, as well as injurious to the plants we cultivate.

Besides insects and birds, many other forms of animal life are likely to be found in the garden. Sometimes you may have a visit from a snake. These creatures, however, are not generally popular, few people love them. You are not compelled to do so. You should let them alone, most of them being beneficial.

The Garter snakes are beautiful, but their fondness for frogs and toads renders them undesirable, one frog or toad being of more service than a host of snakes. There is another snake, though, which may visit you, the Brown Snake or Copperhead, which is decidedly useful. It is perfectly gentle and harmless, and feeds on soft-bodied insects like cut-worms. Slugs are its particular delight. You may think that is horrid taste, they are such slimy things. What about oysters? Slugs can do as much mischief as anything that crawls about the garden; a dusting of lime or salt when they are out in the evening discourages them, though.

American Goldfinch.

Every gardener should respect and protect toads. Apart from their utility, there is an intellectuality and dignity about toads not to be found in any other resident of the garden. In stating this I do not except the human owner of the premises. To very few men is given the dignified bearing of a well fed toad of experience. The only person who can approach it in that respect is an alderman of a city council. Did you ever see a toad or an alderman laugh? "No, indeed; nothing so undignified." There is one wide difference between them, though. One is always useful in protecting the property of the citizens. The other is

not. I leave you to judge which is which. Perhaps you do not see beauty in a toad. Mr. J. Lockie Wilson says it is good for some of us that we are not judged by our beauty or we should come out badly. A toad is one of the most estimable characters we can have around the place. During the day it keeps quiet, but after sunset starts out, as also do the worst of our insect pests. These the toad meets and disposes of in a manner which gives him entire satisfaction, if one

Yellow Warbler.

may judge by the expression of his countenance when he swallows a fat juicy caterpillar. It is well worth while watching a toad when he is hunting his breakfast. There is nothing hurried or grasping about his methods, yet he certainly is successful in obtaining a good living if one may judge by the comfortable rotundity of his waistcoat and the prosperous look of him. It is worth while making friends with him. He will respond readily to gentle treatment, and likes to have his sides tickled with a grass stem by people he knows and trusts. That toads are capable of self-education is evident from the fact that near towns they have learned to take advantage of our modern methods of outdoor lighting. During the summertime, in the suburbs, they gather under the arc lights, seating

themselves in a circle around the lighted space below. Insects striking the lamp above fall to the ground, the toad nearest to the fallen insect reaching out and gathering it in. There is no grabbing, quarrelling or fighting, for each one takes only that which honestly falls to him, and never by force or fraud seeks to obtain more than his share. How different we are when anything desirable is in sight; the strong crowd the weak to obtain it, pushing, crowding and struggling, regardless of the feelings or necessities of their fellow men, and only desirous of satisfying their own greedy desire. How did the toads learn to take advantage of the lights? They could not have inherited the knowledge that insects would fall in that way, because there were no such lights when the ancestors of our toads acquired their instincts. They must have learned it by recent experiences, and, like wise creatures, they know how to profit by it; and so they go to the same place night after night and sit there gathering up the insects provided in this fashion.

If I have succeeded at all in rousing your interest sufficiently to induce you to look more closely into the habits of the creatures that inhabit your gardens, I know you will derive much pleasure and profit from it, and I shall be satisfied in knowing that I have helped to render your hobby more pleasant to you than it was before.

The election of officers resulted as on page 4. A motion was passed limiting the term of President to one year.

COMMITTEE ON NAMES AND VARIETIES.

The following were elected the Committee on names and varieties: J. Cavers, Prof. Macoun, F. E. Buck, Prof. Hutt, Wm. Hunt, H. J. Moore, Roderick Cameron, and Miss Blacklock.

COMPLIMENTARY RESOLUTION *RE* J. P. JAFFRAY.

W. B. Burgoyne moved the following resolution:

"That the Ontario Horticultural Association in convention assembled, has learned with mingled feelings of pleasure and regret that Mr. J. P. Jaffray, our honored first Vice-President, for the past two years, and almost since the formation of this Association a member of the Board of Directors, has been appointed to a responsible position in the service of the Dominion Government at Philadelphia, Pa., which necessitated his removal from our Province. We are pleased at this evidence of the appreciation of his worth by the Government of this country, but regret that we must be deprived of the benefit of his valuable counsel, and personal effort in the promotion of the work of this Association in the Province. We tender to him our good wishes for his temporal prosperity and continued interest in horticultural work."

J. H. Bennett seconded and the resolution was carried by standing vote.

HOW TO CONDUCT LAWN AND GARDEN COMPETITIONS.

Hugh Johnston, Toronto.

The time allotted me this morning to tell you how to conduct Lawn and Garden competitions does not permit of dealing with the subject in as comprehensive a manner as it might be. However, I will try to show you that in a given section, sub-divided, and made competitive, surprisingly good results can be obtained even in a first season.

I have found that the efforts of a society, when concentrated each season on a limited section, rather than spread over a scattered area, are far more effective, and the results more noticeable; and furthermore centreing the enthusiasm will tend to arouse the indolent or indifferent neighbor to take an interest or assist in the work of the society.

When plans for Garden and Lawn competition are made sufficiently comprehensive as to take care of the owner of the small garden without inflicting hardships on the larger garden owner; to provide for the amateur when in competition with the professional, and to give special encouragement to the householder with a one or two year old garden, it is not difficult to interest the entire neighborhood in friendly competition.

This neighborly interest can be intensified by holding a series of lectures, or better still, picture-talks, telling how, when and what it is best to plant, and illustrate the beautiful effects that have been accomplished with little effort and small outlay. If the picture-talks are made simple and not too long, and are put on frequently, say about once a week for a month, in the district of competition, the interest will be increased and made more lasting.

The judging of the gardens is very important. This should be done thoroughly, and by men or women living outside of the district under competition, and especially by persons who have no commercial interests in horticulture.

The prizes awarded should be of such a character as will reflect the greatest credit upon the receiver. Money prizes are the least to be preferred. They do not inspire the right idea, and have seldom met with favor. Plants of any kind are preferable, but these very often come to grief before reaching their place in the garden, or lose their identity, or look insignificant when planted in a garden where a great many flowers are grown. A prize that will reflect credit upon the society at all times, and one that is inexpensive and appreciated by all who receive it, is one gotten up in the form of a shield. It can be had in three sizes, to be used as 1st, 2nd and 3rd prizes. Societies at a slight initial expense can have their own motto or emblem incorporated into the shield in a similar manner to that of the High Park Horticultural Society.

The district set apart for competition should be sub-divided into four or six small sections, each section numbered, and inspected separately in the spring, summer and fall. Awards should be made to the three gardens in each section receiving the greatest number of merit marks during the entire season.

Merit marks should be given not for general appearances, but for the results of the individual efforts in cultivating annuals, perennials, shrubs, climbing vines, lawns, etc.

The householder who grows high board fences should be encouraged to stunt their growth by inflicting a penalty.

In the spring season, the period of time previously arranged for the judge to make his rounds, should be strictly adhered to, otherwise the confidence of the

competitors will be weakened. The same can be said about the time set aside for summer and fall inspections. Make your plans early, consider them well, and when finally approved of, get them before your people and keep them prominently there, and don't forget the most essential part, and that is that the officials carry out their obligation in seeing that the inspections are made at the time specified, and that the rules governing competition are carried out. If any exceptions to the rules are made, or if the judges do not make their inspection within the time stated, the committee handling the competition leave themselves open to the charge of favoritism, the suspicion of which should be by all means avoided.

Dealing with the spring season, the number of points possible to award should be for

Lawns—Front Garden	20	points
Rear "	20	"
Bulbs—Front Garden	26	"
Rear "	26	"
Wild Flowers Cultivated	20	"

In the summer season points possible should be for

Lawns—Front Garden	10	"
Rear "	10	"
Roses—Shrub Varieties	15	"
Climbing "	15	"
Hedges and Evergreens	10	"
Climbing Vines (house)	10	"
" " (fence)	10	"
Flowering Shrubs	10	"
Perennials and Annuals	10	"

For fall season points possible should be for

Lawns—Front and Rear Gardens	15	"
Hedges and Evergreens	10	"
Perennials	15	"
Annuals	15	"
Climbing Vines (house)	10	"
" " (fences)	10	"
Window Boxes	15	"
Hanging Baskets	10	"

In addition to these special awards, there should be added five per cent. of points earned where gardener or other help is not employed to make lawns.

Ten per cent. of points should be added where gardener or other help is not employed to plant out or attend to Perennials, Annuals, Climbing Vines and Roses.

Five per cent. of points earned in competition should be added to competitor whose frontage does not exceed 25 feet.

Ten per cent. of points earned should be added to first year gardens.

Five per cent. of points earned should be added to two year old gardens.

High Board Fences. A special levy of twenty-five points should be charged against competitor for maintaining high board fences anywhere about the premises, to be deducted from total points earned at the end of fall season.

Special competition in named varieties of annuals and vegetables among Boy

Scouts and school children might be taken up, but these no doubt have been provided for already by you.

Enlist the support of your local newspaper in your campaign work by accepting the managing editor's silver trophy as emblematic of the highest honors to be awarded in garden making, winning the highest number of points in the district in the entire season.

A test of the suggestions offered here has been made and the results have been found highly satisfactory. If this plan of campaign appeals to you and you would care to appropriate all or any part of it, please do so with pleasure.

W. B. BURGOYNE: Many societies would like to know not only how that competition and others may differ, and yet get the best out of all of them.

C. D. BROWN: At Walkerville we have one of the largest garden competitions in the Province. Considerable money is expended on the various competitions. We stick to cash prizes because plants are not an inducement to competitors. We have the town divided into three sections and give prizes of trees and privet hedges for new homes. The first prize is a hedge of privet, second a birch or maple, and third a birch. In many instances we have been asked for a change where a man has a hedge or has not room for a tree, so we have to continue the cash prizes. Our total expense this year was $375.

R. W. BROOKS: We have school children's gardens. We do not charge them anything, there is no entry fee and we give prizes as follows:

School children's flower gardens: Prizes for the best flower bed, consisting of geraniums, foliage, annuals, or mixed flowers: selection and arrangement will be considered. First, $4; second, $3.50; third, $3; fourth, $2.50; fifth, $2; sixth, $1.50; seventh, $1. Window or verandah boxes; competitors must be members of the society; prizes: first, $3; second, $2.50; third, $2; fourth, $1.50; fifth, $1. Lawn competition; competitors must be members of the society: Class 1: Comprises working men only. Prizes in each ward. First, $5; second, $4; third, $3; fourth, $2; fifth, $1. Class 2: Men of leisure. Prizes in each ward. First, $5; second, $4; third, $3; fourth, $2; fifth, $1. The definition of a working man is one who is working in a manufactory, store or other employment where he is occupied at least eight hours per day. We also give a certificate of merit for the best kept amateur lawn and garden in Brantford.

DR. BENNETT: We gave a cup worth $50 for the best kept factory ground, to be won three times by any factory. That has caused more interest in St. Thomas than any other prize because of the amount spent to keep it or win it. It is the best thing I ever saw in that line.

C. A. HESSON: Why is the question of general appearance eliminated from the judging?

H. JOHNSTON: Some men have beautiful homes. A man anxious to win a trophy might, if it was for general appearance, go to work and get certain plants, and instruct his gardener to obtain all the liquid manure, put in a 1½ inch rubber pipe for his hose, lay out potted plants, thus having a place that could not be beaten or equalled by anybody. It would be beautifully laid out with the spending of a heap of money. That was not what we aimed at.

C. A. HESSON: That is an exception and would not hold good in another locality.

T. W. DOCKRAY: Mr. Cameron had to go out of town to-day, and asked me to read his paper.

THE BEST VARIETIES OF SHRUBS FOR LAWNS SURROUNDING PUBLIC BUILDINGS.

Roderick Cameron, Toronto.

When asked by Mr. J. Lockie Wilson to give a paper on this subject, I did not at the time consider the work it required, but once giving my consent I would be lacking in my duty as a plant lover if I did not comply to the best of my ability.

In the Old Land and on the continent nearly all grounds surrounding public buildings are planted with evergreens. This gives a cheerful effect during the winter months as well as during the summer. But in Ontario we must abandon all hope of success in growing such plants unless they are used and treated as subtropical plants. This could be carried out on a small scale by planting in beds or amongst other shrubs. The methods of caring for evergreens are well known to most gardeners, so that I need not detail them here, but shall proceed to the subject first mentioned.

Most buildings look bare in this country when lacking both flowering shrubs and vines about them and are improved when either are used.

Put the question to our convention and I do not doubt the result. The majority would say that our own City Hall would be improved by a little judicious planting around its base.

A few neat shrubs planted in the angles of this building, and a few vines to grow on the building, not necessarily to cover it, would take the bare look away. The planting of vines was attempted one time, but was ordered out again by the Council as they thought them an injury to the walls. We fail to see where the injury would come in. And we have numerous instances where such vines are a great improvement around our city, for example, the Toronto Carpet Factory on King Street, near Dufferin Street. Where can a person see a more beautiful sight than this large building is during the summer months, shingled with green from top to bottom? It reflects great taste upon the owner.

If some Tecomas and Celastruses were planted along with the Ampelopsis, particularly in the angles of the building, the one would help the other to relieve the sameness. The Tecoma blooms hanging out beyond the flat background of the Ampelopsis give a pleasant effect. The same may be said about the Celastrus, but its beauty begins when winter is at hand. The first frost bursts open the seed-pods, exposing the orange-red seeds that hang down on silken-like threads from the pods, producing a warm appearance when the ground is covered with snow.

Celastrus scandens is our own native plant found in the woods but better known by the name of staff vine—*Celastrus paniculatus* and celastrus punculatus are both Japanese varieties and are quite hardy.

The planting of shrubs around the base of a building depends greatly upon the style of the building, whether it would be an advantage or not. The north side of a building must have shade-loving plants, such as *Caragana arborescens,* (Siberian Pea Tree) *Hydrangea arborescens, Cornus spaethii, Cornus,* variety *elegantissima variegata, Cornus siberica, Kerria Japonica, Kerria Japonica* fl. pl. and *Kerria Japonica variegata,* as a border plant, *Philadelphus Coronarius foliis aurea, Rhodotyphus Kerrioides,* or White Kerria, *Ribes aureum,* (Missouri Currant).

Housing of London County Council, Whitehart Lane Estate.

From the plants mentioned above may be selected foliage, bloom and fruit, as well as colored bark to suit the taste of any individual.

For the east side of a building, any of the best flowering shrubs will answer, as it gets the morning sun. Yet it is not too long exposed to the same, and plants in this situation get the moisture from the sky when it rains.

The west side of a building of this description is the difficult one for which to prescribe. It is so protected from all moisture during the summer with high walls and a projecting roof that artificial watering must be restored to almost daily to insure the development of the plants. This watering is more effective in the evening than during the day, and the plants should be well sprinkled overhead to keep down insect pests such as aphis and red spider, the latter being the most destructive pest to plants in such positions.

If this watering is well attended to, the same varieties of plants as are mentioned for the east side may be grown here.

We have now come to the south side of the building where the sun is blazing hot all day and the heat reflected back from the wall. It is hard to get the plants that will stand this without being destroyed by insects, or the foliage being burnt by the sun.

In this position the more upright forms seem to answer better than the low, flat-headed ones. I find that Aralia spinosa, by some called Japonica and Tamarix parviflora are two excellent plants. Forsythia suspensa is always clean and tidy. *Spiraea prunifolia flore pleno, viburnum plicatum, viburnum tomentosum,* (both from Japan) can be used with Spiraea Anthony Waterer towards the outside. *Philadelphus Coronarius aurea* always looks well among the other shrubs on account of its golden foliage, *Deutzia Lemonei* and *Deutzia gracilis* are about our dwarfest shrubs. Therefore they must be planted towards the edge. A few of the dark foliaged Canna, King Humbert, would brighten up a border of this sort.

Many buildings look well nestled among plants of this description and grounds around dwellings may also be planted after this fashion and look equally well.

I believe all public buildings are very much improved by having a low wall with a fence on top of it, not a jail wall as we see sometimes. There are very few public buildings in the old land that are lacking either a wall, fence or hedge round their grounds.

If a wall, the same is generally covered with vines of some sort, and the inside of such a wall or fence is generally banked up with a good collection of shrubs and low trees of the best quality, particularly those producing the best and showiest foliage and fruit. This banking of shrubs is continued around the grounds and wider in the corners, if the grounds are of any extent. But on small grounds, such as surround our own City Hall, it is only the corners that should be filled up and a few isolated, good specimens here and there to break the bare appearance, such as is done each summer with bay trees. The building being the centre or main attraction, the embellishing with shrubs around and against the wall or fence is the frame. A good picture is never hung without a good frame to match it, and *vice versa.* The trimming of a frame of this nature is usually in bright colors, and our shrubbery borders would be rather dull at times if not intermixed with some bright coloring. Therefore we must introduce some hardy perennials of the showiest and best varieties, and amongst them may be a few bright greenhouse plants, either foliage or bloom. If the grounds be of a spacious character, the rule adopted on the continent may be applied, the grounds

to be laid out in large beds, as a flower garden, and planted with dwarf growing trees of the choicest varieties and bordered with the best shrubs, a few neat evergreens bordered with hardy flowering perennials and greenhouse plants. Even subtropical planting may be attempted on a small scale, using principally evergreens hardy or half hardy.

Here I come to the varieties of plants to be used in forming the framework of the picture, if the grounds are of a spacious character. First, do not use large trees requiring much root room as they will rob the weaker plants of nourishment, and care should be taken to plant in groups of a kind, according to their character and color, and aim to have them distributed to cover the season with color of some kind, either flowers, foliage or fruit. The fruiting plants are very important as they brighten the borders during the winter. If the grounds are small there can only be a few specimens used. On the other hand, if large, use clumps of a dozen plants of a kind together, with one or two of the brightest interspersed throughout the borders or beds. This applies to shrubs only, not trees.

It is not a good practice to make a continuous tall row of the same size at the back of the border, except where ugly sights are wanted to be hidden. Better plant in groups of the tallest and strongest trees towards the back, leaving bays for the largest shrubs to run back to the wall or fence, gradually tapering down to the front with the neatest and tenderest shrubs. In this fashion they will be safe from the roots of the strongest robbing them of their share of nourishment. And they will act as a blind to hide the bare ground under the larger plants. As a ground work or cover under the larger plants may be used periwinkle or Vinca Minor, Bearberry, or Arctostaphylos *Uva-ursi*. *Euonymus* variety *ovatus*, and *Euonymus radicans*, both Spindle Trees, and all are good plants to cover the ground under trees and shrubs.

The taller plants for such grouping may consist of *Crategus Paulii flore pleno*, or Paul's double flowering thorn in red, pink and white. *Cercis Canadensis* or Judas Tree, also called red bud. *Halesia tetraptera* (or Silver Bells). *Euonymus Europeus* (or Spindle Tree), *Pyrus Malus Parkmanii*, producing semi-double flowers very freely, a native of Japan, *Prunus pissardi*, (Purple leaved Plum) *Quercus rober pedunculata concordea*, or Golden Oak, one of our best golden foliaged trees, *Rhus continus* (Purple Fringe or Smoke Tree) *Salisburia adientifolia*, (Maiden Hair Tree) *Salix Regalis* (Royal Willow) *Sassifras officinale*, *Tilia*, variety *sulphurea*, (Golden Barked Linden). *Syringa Japonica*, (Japan Tree Lilac) *Fraxinus*, variety *aurea*, (Golden Barked Ash). *Fraxinus* variety *Globosa*, (Dwarf Globe Headed Ash). *Cerasus Japonica* variety *rosea* (Double rose flowered cherry), *Aralia Japonica*, and *Aralia spinosa* (Angelica tree). *Alnus*, variety *laciniata* (Cut leaved Alder).

From the above may be chosen many good trees for foliage and fruit. These trees would not be complete without the following shrubs as a foreground to them. I would fill a catalogue of names of shrubs, but I will only mention a few of the best of each section beginning with *Dierrilla* or *Weigela hybrida*. *Stelzneri*, *Weigela candidum*, *Weigela Eva Rathke*, *Weigela Desboissii*, and for colored foliage *Weigela Florida tartarica grandiflora*, *L. tartarica grandiflora alba*, L. *tartarica fructo lutea*, yellow fruit. The Elders are much used in the Old Land and the best are as follows: *Sambucus Niger aurea*, (Golden Elder) *Sambucus Niger Variegata*, (Variegated Elder) *Viburnum placata*, (Japanese Snow Ball) *Viburnum tomentosum*, the single one. The white Fringe Tree must not be forgotten, *Chionanthus Virginica*. *Forsythia suspensa* is the hardiest

of the Golden Bells. *Eleagnus argentea* would brighten any shrubbery with its bright silvery foliage. *Daphne Cneorum* (Garland Flower) is excellent for the front of the border, *Pachsandra terminalis variegata* is another good dwarf for the front. *Corylus avelliana aurea,* (Golden) and *Corylus avelliana purpurea* are both good coloured foliage plants, and worthy of a place in the border.

Philadelphus coronarius aurea is also one of our best golden plants, and there are many others that may be added. There are two Hydrangeas that should be in this collection, *Hydrangea paniculata grandiflora,* and *Hydrangea arborescens,* the latter flowering before the former. There are not many of the Deutzias hardy in Toronto. *Deutzia gracilis* and D. *lemoinei* are the best, both dwarf.

Spiraeas are many, and it is sufficient to name two or three, *Spiraea Van Houttei,* S. *prunifolia flore pleno,* S. Anthony Waterer, and S. *Thunbergei.* The *Nellia opulifolia aurea* produces a good golden foliage. *Prunus triloba* makes a bright spot in the garden. *Rodotypis Kerrioides* gives a good berried plant. *Rosa Rugosa,* in three colours, supplies coloured fruit towards the fall. *Robinia pseudo-acacia Decasiniana* is perhaps one of the brightest shrubs grown, and should be in every collection. Cydonia Japonica must be here. *Exochorda grandiflora* (Pearl Bush) is an excellent hardy and large shrub. *Colutea arborescens* or Bladder Senna, fills a want. *Indigofera dosna,* is a good dwarf for the front of the border, *Amorpha fruticosa,* (Indigo plant) should have a place amongst the eight footers, and flowers in July. There are a number of dwarf Sumachs useful for color effect among the shrubbery. This list would not be complete without mentioning the Barberry, as we cannot get along without two of them, *Berberis Vulgaris purpurea,* and *Berberis Thunbergei* of Japan.

Some may find fault that I have not mentioned the Altheas, or Hybiscus as they flower when blooming shrubs are scarce about the end of August. But I find them not to be depended upon as to hardiness in Toronto. I must add one more, *Hypericum Moserianum* (The Gold Plant) two feet high, producing golden bloom during July and August.

REPORT OF THE COMMITTEE ON NAMES AND VARIETIES.

Your Committee on Names and Varieties appointed at the last meeting of this Association, begs to make the following report:

Your committee held its organization meeting in Toronto, last September, at the date of the Toronto Exhibition. Mr. John Cavers held the position of chairman temporarily till that date.

At this first meeting your committee elected Mr. H. J. Moore, of Queen Victoria Park, Niagara Falls, Ont., as chairman and confirmed the previous election of the secretary.

Acting on a precedent endorsed by this Association on a former occasion, your committee instructed the secretary to communicate with the secretary of the Ontario Vegetable Growers' Association in order to inform him that it was the wish of your committee to continue the custom of having one of the members of that Association represent it on your committee. Your committee has been informed that Mr. Thos. Delworth was yesterday elected by that Association to act as its representative.

The Canadian Horticultural Association elected Mr. E. Mepstead, of Ottawa, at the date of its Annual Convention, July last to represent it on your committee in the same way.

Your committee therefore as at present organized, consists of the following:

Mr. H. J. Moore, Queen Victoria Park, Niagara Falls, Ont., Chairman.

Miss M. E. Blacklock, Toronto.

Mr. J. Cavers, Oakville, Ont.

Mr. R. Cameron, 95 King St. East, Toronto, Ont.

Mr. W. Hunt, O.A.C., Guelph, Ont.

Prof. H. L. Hutt, O.A.C., Guelph, Ont.

Mr. W. T. Macoun, C.E.F., Ottawa, Ont.

Mr. Ed. Mepstead, Bank St., Ottawa, Ont. (representing the Canadian Horticultural Association.)

Mr. Thomas Delworth, Weston, Ont.

Mr. F. E. Buck, C.E.F., Ottawa, Ont., Secretary.

Your committee has to report that it has taken into consideration lines of work several of which are inherited from the two committees from which your present committee sprung, as well as several lines of work which are new. These may be summarized as follows:

First, the continuation of those reports and observations on what are known as "Novelties" or "New and Little Known Plants."

Second, the exhibition whenever possible, at this Annual Convention or when convenient of these plants or photos illustrating them.

Third, the continuation of lists giving the correct pronunciation of words frequently mispronounced.

Fourth, the commencement of a series of lists giving the most generally accepted English or Common Names of popular and desirable plants—lists which might eventually form, it is hoped, a recognized and stable "Every Day Plant Nomenclature."

Fifth, the preparation of a series of lists giving various common terms used in Plant Nomenclature together with the meanings of such terms and any other data which might help the average horticulturist or gardener as aids in this subject.

Sixth, the undertaking of any necessary work in connection with the verification of specific or varietal names of plants.

Seventh, work which aims to establish an official or Government Register in some workable form of Horticultural Varieties of Plants.

Your committee has pleasure in reporting that progress has been made in regard to the work as mentioned in the first five sections of this programme.

Your attention should be first drawn to the work in connection with "New or Little Known Plants." The lists are supplied by several members of your committee, and each contributing member will discuss his own tests.

Eighty-one plants have been mentioned, about sixty being described as plants of merit, eleven are listed without descriptions and nine are plants to which no merits can be ascribed. In this last list several of the novelties of the year 1913 are included.

The list of words commonly mispronounced will be read by Mr. Wm. Hunt.

The "Everyday Plant Nomenclature" Section is this year represented by a list of twenty-five Annual Plants supplemented by a short list of Popular Annual Plants which are best known by their botanical names or which have no common or English name. These lists will be read if called for.

The lists known as "Aids in Plant Nomenclature" are too long to be read in full, but it may be remarked in connection therewith that your committee is of the opinion that this Association would be aiding in a considerable measure the amateur, the professional and the commercial horticulturist if it saw fit to either appoint a new committee (or authorize your committee now reporting to elect a sub-committee from among its members) for the purpose of looking into the feasibility of collecting such material and data as relate to Plant Nomenclature and Rules of Horticultural Practice, etc., and embodying them in a small handbook. Your committee believes that a very useful handbook could be compiled from data which is often obtained at great expense of time and labour and which is now all too soon buried in reports of Canadian Horticultural Societies, now no longer obtainable, or obtainable for a few years only after they are printed.

Your committee thinks it advisable to call attention to the fact that it has reason to believe that the present would be a good time to inaugurate work in connection with an official registration of plants—a work which will need the support and co-operation of kindred societies. The Canadian Horticultural Association has a presiding officer this year who is known to be willing and able through the publication he edits to give support to projects aiming at betterment in the world of horticulture and all members of all kindred societies in Canada would, it is hoped, heartily endorse practical and reasonable attempts to do work along the two lines just mentioned.

All of which is respectfully submitted.

Signed on behalf of the Committee.

H. J. Moore, *Chairman.*
F. E. Buck, *Secretary.*

NOTES ON NOVELTIES AND PLANTS NOT WELL KNOWN.

Wm. Hunt, Ontario Agricultural College, Guelph.

Centaurea Cyanus flore pleno. Annual. Height 3 feet. This double free flowering type of the cornflower, recently introduced, will be found very useful indeed for decorative purposes, either as a border plant or for cut flower purposes. By sowing seed indoors early in April, and planting outside about the end of May, its showy peacock blue or pure white flowers can be had from early in July until November. The white flowering type of this plant should prove a useful florist's flower for summer cutting. Both of these types have been listed in Canadian seed catalogues for the past season or two.

Red Sunflower. Annual. This is a decided novelty. A large percentage of the flowers are of a rich, bronzy red color, in others there is a circle of gold color at base of petals, as well as on the margin of petals, giving them a strikingly beautiful appearance. Flowers 6 to 8 inches in diameter. Height of plant four to five feet. A vase of these flowers exhibited at the Guelph Horticultural Show was much admired. Seed secured from Sutton and Sons, Reading, England.

Sutton's Brilliant Rose Petunia. Height 12 inches. One of the new dwarf, compact, small flowering types of Petunias, recently introduced. Very profuse flowering habit. There are several colors, white, violet and white, striped and blotched rose and white. The rose colored types are probably the best. A very

useful bedding plant. The old plants cut back, dug up and potted before hard frosts, make splendid pot plants that will flower all winter in a sunny window.

Chrysanthemum Arcticum (Arctic Daisy). A very showy, conspicuous hardy perennial. The plant grows to about 3 feet in height, of a bushy balloon shaped habit. It is literally covered with its white Ox-eye-daisy-like flowers, from about the middle of September until quite severe frosts. Henry A. Dreer, Philadelphia, Pa., re-introduced this plant in 1912, it having been apparently lost sight of for some years. It is a native of Arctic Alaska. No perennial border should be without a plant or two of this showy autumn flowering plant. A plant purchased from the above named firm was quite conspicuous and an object of great interest during the past autumn in the College border. Useful for cut flowers.

Garden City, Hellerau, Germany.

Pentstemon gracilis. Perennial. Height 12 to 18 inches. A very free flowering dwarf type of the Penstemon digitalis type. Color of flowers carmine, purple and white. A very pretty and hardy plant for the perennial border.

Salvia globosa. Perennial. Height 18 inches. The silvery-grey foliage of this Salvia with its profusion of small white flowers, makes it a noticeable object in the perennial border, from early summer until autumn. It appears to be quite hardy, having stood two winters without protection. The plants were raised from seed sent out by Thorburn and Co., New York, in 1911.

Calceolaria profusa (Clibranii). A new hybrid type of the greenhouse herbaceous calceolaria. Much easier of culture than the old grandiflora type. The flowers are borne in large, loose, and gracefully formed sprays that give the plant a very attractive appearance. A decided acquisition to this class of plants.

Calceolaria "Buttercup." A hybrid herbaceous greenhouse type of easy culture. Very profuse in flowering habit. Flowers a soft golden yellow, dotted with pale brown spots. Larger flowers than Clibranii, and the flowering stems are of

sturdier growth. Both of these fine Calceolarias were sent out by Veitch and Sons, Chelsea, England, in 1912.

Chrysanthemums.—The following new Chrysanthemums sent out by Elmer D. Smith & Co., Adrian, Michigan, U.S.A., 1913, and tested among other new kinds at the College, have points of special merit to recommend them.

Allegheny. A pale pink, resembles the well known variety "Ladysmith." The individual flowers are larger, the plant is not of as good a habit of growth as the last named for a pot plant.

Blazing Star. Single, petals slightly incurving. Color a new and pleasing, rather dull shade of Lake Crimson. Calyx in centre showing a golden yellow, making it very noticeable. The formation and color of its flowers are quite new and unique, something like an incurved single dahlia.

Celtic. Single. Flowers large, 4½ inches in diameter, of a beautiful silvery rose pink shade. Base of petals closely quilled and almost white in color, giving the flowers a very attractive appearance. Free flowering, pretty and unique.

Golden Robin. Bright golden yellow, slightly recurve bloom. Free flowering, medium height, will make a good variety for pot culture.

Laurita. A splendid addition to the quilled anemone, Japanese section. The peculiar ray-like formation of its bright yellow flowers produced in profusion, will make it a valuable acquisition for cut flower purposes.

Lucille Quinlan. A broad petalled, loosely incurved bloom of a rich primrose yellow. Promises well for either bench or pot culture.

Mary E. Meyer. A Japanese pure white recurve of the Christy Mathewson type, not as tall growing as the latter, flowers not quite as large. Sturdy, short jointed growth, well furnished with foliage. A good keeper, will likely prove a useful variety.

White Perfection. A high, well rounded incurve and quite double. An improvement of the Pres. Roosevelt, Pres. Taft, Naomah, and Miss Faith Moore varieties, although possibly not quite as intensely pure white as most of the last named. Form of flower and habit of growth as near perfect as possible. Should be in every collection.

Geraniums.

Ten or twelve new varieties introduced by Henry A. Dreer, of Philadelphia, Pa., were tested during the past season, several of which will likely take a permanent place among the standard varieties now grown.

Agathos. Semi-double. Very similar in habit of growth and flowering to the well known bedding variety. A. Ricard, color of flower a few shades darker scarlet. Promising as a bedding variety.

Baronne de Lonqueil. This variety might almost be classed as single flowering, as only a few short, imperfect petals were produced in the centre of some of the flowers. It bears very large trusses of a peculiar shade of magenta-rose, the petals being stencilled almost pure white. Good strong grower. A showy, unique variety.

Marquis d'Abadie. Magnificent foliage and habit. Very large truss of rosy-salmon pink flowers edged with white. Resembles somewhat the well known Mme. Jaulin (Apple Blossom) variety. Pretty, likely to be very popular.

Mme. Paola Radaelli. Very compact habit of growth. Flowers peculiar in color, often showing alternate florets of pale pink and white on the very large trusses it bears, the white florets dominating in point of color, giving the flower a creamy white appearance generally. Should prove a good bedding variety.

Single Geraniums.

Charles Guerin. The individual flowers of this variety are very large and of a pale, pleasing salmon carmine shade. Fair grower. Pretty.

Diamant. A pretty dwarf growing variety, flowers white, slightly margined with carmine. Free flowering, odd, very noticeable in a collection.

Frederick Plessis. This is a promising variety. The immense trusses of rosy-carmine flowers with white eye, make it very pleasing and conspicuous. Good, robust habit of growth. Very promising as a bedding or pot plant.

Kleios. Of rather dwarf growth. Flowers a dark, brilliant crimson, shading to almost violet, with small white eye. Not very free flowering. Distinct, will possibly prove a good variety for pot culture.

Pierre Valdague. Good grower. Large truss, and florets of a peculiar shade of carmine-crimson. Will likely prove to be a good bedding variety.

Saccha Guitry. Strong vigorous grower, large trusses of vivid scarlet-orange flowers. A very striking, conspicuous variety.

NOTES ON NEW AND LITTLE KNOWN ANNUALS TESTED AT OTTAWA.

F. E. Buck, Central Experimental Farm, Ottawa.

As a continuation of a Variety Test of Annuals, several hundred varieties of annual flowers including "Well known" annuals, "Little known" annuals and "Novelties" were tested at the Central Experimental Farm, Ottawa, during the season 1913.

Amongst the "Little known" annuals the following showed up to advantage. (The seed of all the annuals was sown in hot-beds April 11th to the 14th, and the plants were put into their permanent positions the first week of June.)

Arnebia cornuta (Prophet Flower). Plants spreading, 12 inches to 18 inches high, covered with a mass of yellow bloom, each flower having five black spots which fade to light brown and then disappear entirely after a few days. A native of North-west India. Useful for sunny situations and rock gardens. In bloom from July 2nd till late September.

Bartonea aurea (Burton's Golden Flower). This is more correctly classified as Mentzelia Lindeyii. Plants spreading, 18 inches high, single flowers one and a half inches across, a rich golden yellow opening more freely towards the evening. Does well in the sun. Useful for the border of rock gardens. In bloom from June 19th till end of August.

Centranthus macrosiphon. Plants upright or slightly spreading, 18 inches high. Flowers small rosy-red, borne in Valerian-like masses. A Spanish annual, standing the heat well. Useful for a border or rock garden. In bloom from June 4th till late September.

Centaurea imperialis (Sweet Sultan). Plants 24 inches to 30 inches high. Flowers of various colors, 2 inches to 3 inches across on long stems. Great improvement on the older Sweet Sultans. Splendid for cutting. In bloom from July 3rd till early September.

Calcalia coccinea (Tassel Flower). Plants upright, 18 inches high. Small flower-heads of vivid orange scarlet borne on long stems. Fairly useful for cutting and also for borders, on account of vivid colors. In bloom from June 14th till middle of August.

Cosmos or Cosmea (Cosmos). Plants 3 feet high. The Cosmos is a Mexican plant allied to the Dahlia. Its finely divided feathery foliage is very pleasing. This particular variety called Dobié's New Early Flowering is excellent in that it is in bloom six weeks to two months earlier than other varieties. Useful for special locations and the back of the border. Flowers various colors. In bloom from June 26th, till late September.

Hardy Perennial Chrysanthemum, Arcticum.

Jacobea (Senecio or Groundsel). Plants 12 inches high, foliage thick and fleshy, not affected by the heat. Flowers borne in dense heads, double, various colors. Useful for bedding or the rock garden. In bloom July 27th, till early October.

Lupinus (Lupine). Plants 18 inches high, upright, flowers in spikes various colors. Sun-loving plants doing well in soil where lime is plentiful. Useful for the flower garden or borders. In bloom from July 3rd till middle of August.

Linum grandiflorum (Flax). Plants 12 inches high. Flowers bell shaped,

rich scarlet crimson. Effective on account of its rich color. Useful garden plant. In bloom July 15th, till end of September.

Leptosyne Stillmanii. Plants 12 inches high, closely related to the Coreopsis. Yellow flowers on fairly long stems. Useful for cutting. This variety is of recent introduction. California plant liking a sunny situation. In bloom from June 27th. till late September.

Leptosiphon hybrids. Plants 6 inches high. Flowers small, neat, attractive and of various colors. These dwarf hybrids are likely to be very useful for edging and rockwork. In bloom from July 6th, till end of August.

Lavatera rosea splendens (Mallow). Plants 18 to 24 inches high. Flowers a pretty shade of rose pink. The Lavateras are effective plants with their beautiful cup-shaped flowers. Useful in the garden or border. In bloom from July 25th. till middle October.

Martynia fragrans (Elephant's Trunk). Plants very spreading 12 inches high. large woolly leaves. Flowers fragrant. Gloxinea-like of mauve and purple. Likes a moist and sunny position. Useful when a bold foliage plant is needed. In bloom from July 10th, till Middle September.

Oxalis, Cloth of Gold (Wood Sorrel). Plants 9 inches high. resembling the clover plant. Flowers yellow. rather small. Does well in warm sandy soil. In bloom from July 2nd till early September.

Rudbeckia Golden Sunset (Coneflower). Plants 18 inches high. Flowers yellow with chestnut markings. A compact, attractive plant bearing a great profusion of bloom. Useful for cutting. In bloom from July 3rd till late September.

Sphenogyne speciosa. Plants 12 inches high. Flowers Marguerite-like yellow with brownish centre. lasting only for a short season otherwise attractive. In bloom from July 8th till middle of August.

Statice Annual (Sea Lavender). Plants 24 inches high. Flowers in spikes or sprays, everlasting, small bell-shaped, color cream and purple. Useful for cutting and may be dried as ordinary everlasting flowers. Does well in light soil. In bloom from July 15th till middle October.

Tagetes Golden Gem (Dwarf Marigold). Plants 9 inches high. Flowers small orange yellow growing in great profusion over the entire plant. Stands drought well and blooms best in rather light soil. Useful for edging or bedding. In bloom June 19th till late September.

Viscaria cardinalis (Rose of Heaven). Plants 18 inches high Profuse blooming annual, pleasing brilliant crimson cup-shaped flowers, a fine garden or border flower. Similar to Lychnis. In bloom July 14th till early September.

Whitlavia grandiflora. Plants 12 inches high, related to Nemophila and sometimes classified with Phacelia. Flowers bell-shaped deep blue. attractive in early summer but do not last long. Useful in flower garden. In bloom June 16th till middle August.

In addition to the foregoing a few new varieties or selected strains of certain well known annuals put on the market during 1913 as Novelties by various seed firms should be mentioned. In very few instances, however, were these Novelties superior to the older varieties.

Alonsoa gracilis, one of the best of the Alonsoas.

Cyanus minor, very free-flowering.

Cyanus major, mixed shades of blue, free-flowering.

Celosia cristata, scarlet. a neat dwarf variety.

Clarkia elegans, double coppery-red, attractive color.
Chrysanthemum inodorum, Bridal Robe, very free-flowering.
Dimorphotheca aurantiaca, hybrids, some pleasing colors.
Eschscholtzia Thorburnia, deep orange yellow.
Linaria riticulata aurea, a pleasing free-bloomer.
Morning Glory, New Airy Fairy, color not attractive.
Petunia, large flowered fringed, a very good strain.

The following "New or Little-known Annuals" did not show up to advantage this year. No adverse criticism, however, will be made until they have been tested further.

Collinsia bicolor.
Campanula attica.
Calindrinia speciosa.
Gypsophila elegans campacta.
Hebenstreitia comosa.
Kaulfussia amelloides.
Linmanthes Douglasii.
Leptosyne maritima.
Schizopetalon Walkeri.

PLANT NAMES FREQUENTLY MISPRONOUNCED IN ORDINARY USAGE.

J. Cavers, Oakville, and Wm. Hunt, Guelph.

Arnebia: ar-nē'-bĭ a, not ar-neb'-ia
Asperula; ăs per'-u-la, not ăs-pe ru'-la.
Brachycome: brak-i kō'-me, not brak'-i come.
Browallia: brōw-āl'-li-a, not brow a'-lia.
Calendula: kal-end'-u la, not ka-len-du'-la.
Cosmos: koz'-m os, not cos'-mos.
Datura: dā-tū'-ra, not dā-chu'-ra.
Diascia: di-as'-ki-a, not di-a'-sci-a.
Digitalis: dij-i-tā'-lis, not dĭg-i-tal'-is.
Dolichos: dol'-l kos not do'-l -chos.
Gaillardia: gāl-lăr'-di a, not gay-lărd'-ia.
Heliops'is: hē-lī-op'-sis, not hel-i-op' sis
Humulus: hū'-mū-lus, not hūm'-u-lus.
Helichrysum: hel-i-kris'-um, not hē-li-chry'-sum.
Lathyrus: lath'-i rus, not la-thī'-rus.
Lavatera: la-va-tē'-ra, not la-vāt'-e-ra.
Linum: lī'-num, not lin'-um.
Martynia: mar tin'-i-a, not mar-ti'-ni-a.
Nemophila: nē-mof'-il-a, not nē-mo'-fil-a.
Nicotiana: ni-kō-shi-ā'-na, not nic-o-ti'-a-na.
Ricinus: rĭs'-in-us, not ri-ce'-nus.
Solanum, sō-lā'-num, not sō-lā'-num.
Statice: stăt'-ĭ sē, not stat'-ice.
Tagates: tā-gē'-tez, not tag-ites.
Tropaeolum: trŏ-pē'-ŏ-lum, not trōp e-o'-lum.

AN ENGLISH NOMENCLATURE FOR POPULAR FLOWERS.

Wm. Hunt, Guelph, and F. E. Buck, Ottawa.

First List of Thirty Annual Flowers.

Introductory Note. The English names of many plants are often most appropriate and frequently very pretty. The chief reason why they are not more generally used is that the same plant is often known under several different names. In one locality because of some custom a plant may have one name, in other localities the same plant is often differently named. From the standpoint of both the commercial man and the specialist this is a fatal drawback, as it leads to confusion.

Should the English speaking races ever strive to bring into general use English names for plants instead of as at the present time a mixture of both English and Latin names, an attempt must be made first of all to select the most appropriate of these English names for such general use. Inasmuch as it is the belief of your committee that an English nomenclature for all the popular plants is most desirable, an attempt has been made in the following list to select the English name for each plant which it is thought will be most appropriate for the plant the world over. We in Canada at the present stage have a much better opportunity to establish a popular English nomenclature for plants than most people have, and we should not let the opportunity slip by without taking some advantage of it.

Hardy Perennial, Salvia Globosa.

Botanical Name.	*Recommended English Names.*
Callistephus.	Aster, China.
Impatiens Balsamina.	Balsam.
Schizanthus.	Butterfly Flower.
Eschscholtzia.	California Poppy.
Celosia cristata.	Cockscomb.
Centaurea cyanus.	Cornflower.
Iberis umbellata.	Candytuft.
Helichrysum bracteatum.	Everlasting Flower.
Celosia plumosa.	Feathered Cockscomb.
Nigella.	Love-in-a-Mist.
Amaranthus.	Love-lies-bleeding.
Delphinium.	Larkspur.
Tagetes.	Marigold.

Ipomoea.	Morning Glory.
Mimulus cardinalis.	Monkey Flower.
Reseda.	Mignonette.
Tropaeolum.	Nasturtium.
Papaver.	Poppy.
Salpiglossis.	Painted Tube-Tongue.
Scabiosa.	Pincushion Flower.
Dianthus.	Pinks.
Calendula.	Pot Marigold.
Lathyrus odoratus.	Sweet Pea.
Helianthus.	Sunflower.
Kochia tricophylla.	Summer Cypress.
Centaurea.	Sweet Sultan.
Brachycome.	Swan River Daisy.
Matthiola.	Ten-week Stocks.
Nicotiana.	Tobacco Plant.
Malcolmia.	Virginian Stock.

Alyssum or Sweet Alyssum, Cosmos, Clarkia, Coreopsis, Dahlia, Godetia, Nemesia, Phlox and Portulaca are known best by their Botanical names.

AIDS IN PLANT NOMENCLATURE.

1. Rules Concerning the Naming and Capitalization of Plant Genera, Species and Varieties.

F. E. Buck, Ottawa.

Introductory Note. The system of naming and describing plants in a uniform manner and using exactly the same Botanical names for both genera and species throughout the whole world is to-day more than ever felt to be not only desirable, but absolutely necessary. As far as plants and many other things are concerned, the Latin language has been found to be the most convenient language for this purpose. The following notes relate to the more recent revisions of plant nomenclature in that language.

Generic Names. By a Generic name is meant a name which is held in common by a group of plants which possess a number of common characteristic features, thus "*Aquilegia*" is the generic name for a number of species of Columbine of which *Aquilegia canadensis* is the native representative. Generic names of plants correspond to our family names, and are always written with capital letters.

Species. The species name which follows the generic name (example: "canadensis" after Aquilegia) should in general give some indication of the appearance, the character, the origin, the history, or the properties of the plant.

With regard to the formation of species names, we have definite rules to follow formulated at International Botanical Congresses.

The word "canadensis" as mentioned above, denotes the native representative of the genus Aquilegia, and is an example of a species name used to denote the

origin of the plant. In this case the word "canadensis" is written with a small c, that is never with capital C. It cannot be stated, however, that *all* plant species, as is the case with "canadensis" for instance, commence with small letters. In a few cases a capital letter is correctly used. In the large majority of cases, however, it is correct to use the small letter for the species name. There are several exceptions to that rule which are as follows:

First. Species names taken from another genus are written with a capital, such cases are rare, but *Acer Negundo* is an example, Negundo being the genus in which the Manitoba Maple was at one time placed. *Pinus Strobus* (White Pine) is another example.

The second exception occurs more frequently. It occurs when the species is named after a person in honor of a noted Botanist for instance, who has discovered several new species of plants. Thunberg's Barberry now so popular is botanically named Berberis *Thunbergii,* the word *Thunbergii* being written with a capital letter.

The International Congress held in Vienna in 1905 formulated additional rules whereby such proper names when thus used should be Latinized after a uniform method. Their rules differed slightly from former rules on this matter, and are as follows:

1. When the name ends is a vowel "i" is added, example, Forsythia *Fortunei* (Fortune's Forsythia).

The exception is when the name ends in "a" then "e" is added in place of "i," example, Syringa Joskae (Josika's Lilac).

2. When the name ends in a consonant the letters "ii" are added, example, Berberis *Thunbergii.*

The exception is when the ending is "er" then only one "i" is added, example, Acer dasycarpum *Wieri.*

2. A Few of the Common Prefixes and Suffixes.

Prefixes:—	*Significance*	*Example*
grandi-	of large size	Coreopsis grandiflora,
hetero-	of several kinds	Aconitum heterophyllum,
lati-	broad	Campanula latifolia,
poly-	many	Lupinus polyphillus,

Suffixes:—	*Significance.*	*Example*
-folia, -folius, -folium,	relating to the foliage	Campanula latifolia,
-flora, -florus, -florum,	relating to the flowers	Campanula lactiflora,
-phylla, -phyllus, -phyllum,	relating to the leaves	Aconitum heterophyllum,
-oides, ...	resembling	Boltonia asteroides,

3. Some Common Latin Adjectives Used to Describe Plants.

Introductory Note. Most of the following Latin adjectives occur very frequently in plant nomenclature. They are used as the names of plant *species,* and are given here with their meanings in this special way in the hope that presented in such a form the list may be of greater practical use.

It will be an aid, it is believed, in the sense that it will stimulate a knowledge of the nomenclature of plants, as well as the uses and real meaning of the subject. This list is prepared for those who have a personal interest in and a working

knowledge of plants. Its application is limited but how it might be of practical use may be illustrated as follows:

The *Campanulas* (Bellflowers) are much alike in some cases as regards their flowers. In many cases, however, the leaves are distinct. Then suppose that we have *C. rotundifolia, C. persicifolia* and *C. latifolia* growing together, and require to know which is which. Since "rotundifolia" means "round leaved" this species is identified at once. *Persicifolia* means "leaves like the peach" and *latifolia* means "broad-leaved." Knowing then the meaning of these Latin adjectives used here as species names, it should not be difficult to make a very good guess as to the identity of these plants. Illustrations like this might be multiplied.

Some of these adjectives are used to describe a large number of plants in different families: as *vulgaris, vulgaris* meaning "common," we have *Syringa vulgaris* (Com. Lilac), *Berberis vulgaris*, (the common Barberry), etc.

Calceolaria Clibranii.

Geographical adjectives and adjectives of color are very conveniently and appropriately used in plant nomenclature. As instances of geographical adjectives used as names of species, we have Aquilegia *canadensis* (wild native columbine), Anemone *canadensis* (Canada Anemone), Lilium *canadense* (Canada Lily).

As instances of plants described by means of adjectives denoting color we may cite Quercus *alba, rubra and nigra* (white, red and black Oaks), Betula *alba lutea*. (white and yellow Birches).

All or nearly all of these two classes of adjectives are given in the following list. The advantage of being familiar with them is obvious. Many of them suggest their own meaning or significance.

Latin adjectives which are formed from proper names and are used to describe plants in honor of those men or women who first brought such to notice are discussed in Section 1, and none such are given in the following list:

ONE HUNDRED LATIN ADJECTIVES USED AS RELATING TO:

The Plant	*The Leaves*	*The Flowers*	*Meaning*
alpina			belonging to the Alps,
alpestris			found in Lower Alps,
americanus			from America,
asiaticus			of Asiatic origin,
amoenus			pleasing, lovely,
	angustifolia		narrow leaves,
		albus	pure white,
		albida	nearly white,
		auratum	gilt, gold,
		atropurpureus	dark purple,
		aestivalis	flowering in summer,
		autumnale	flowering in autumn,
biennis			blooming in the 2nd year,
		bicolor	two-colored,
britannicus			of British origin,
chinensis			of Chinese origin,
canadensis			of Canadian origin,
californicus			of California origin,
campestris			growing in fields,
	cordifolius		with heart-shaped leaves,
		coronarius	crown, or wreath-shaped,
		caeruleus	sky blue,
		candidus	pure white,
		croceus	saffron yellow,
		cardinalis	scarlet,
		chrysanthus	yellow flowering,
		discolor	of different colors,
divaricatus			widely spreading apart,
europaeus			from Europe,
elegans			neat, graceful,
frutescens			shrubby, shrublike,
		fragrans	fragrant,
		flavum	yellowish,
	fulgens		glowing,
		floridus	richly flowering,
		glaucus	grey, blue, or lavender,
		grandiflorum	large flowering,
gigantea			gigantic,
humilis			of low growth,
heterophyllus			bearing leaves of several kinds,
italica			of Italian origin,
	integrifolia		leaves with entire edges,
japonicum			from Japan,
	laciniatus		fringed, cut-leaved,
	latifolius		broad-leaved,
		lutea	a full yellow,
minor			smaller than type,
major			larger than type,
		moscheutos	with a musky scent,
		multiflorum	many flowered,
		magnificus	magnificent,
nigrum			black,
nobilis			noble, stately,
orientalis			Eastern,
occidentalis			Western,
palustris			bog, swamp-loving,
pumilus			dwarfish,
perennis			lasting,
prostratus			lying flat on the ground,
perigrinus			strange, foreign,
pratensis			growing in meadows,
	punctatus		marked with dots,
	persicifolia		leaves like the peach,

ONE HUNDRED LATIN ADJECTIVES USED AS RELATING TO:

The Plant	*The Leaves*	*The Flowers*	*Meaning*
	polyphyllus		many leaves,
	perfoliatus		stem passing through leaf,
	pubescens		downy, slightly hairy,
		purpurea	purplish,
		pallida	pallid,
		plenus	full, double,
		pulchella	beautiful but small,
		pulcherrimus	most beautiful,
reptans			creeping,
	rotundifolius		with round leaves,
		rubra	red,
		rosea	rose-colored,
sibericum			of Siberian origin,
	serratus		having saw-like teeth,
sinensis			from China,
saxatilis			rock-loving,
sempervirens			evergreen,
superbus			magnificent, proud,
sylvestris			wild, not cultivated,
sylvaticus			growing in woods,
		speciosus	beautiful,
		spectabilis	showy, superior,
	tenuifolia		slender thin leaves,
		tinctoria	used for dyeing,
virginianum			from Virginia,
villosus			shaggy,
vulgaris			common,
		versicolor	changing color,
		variegata	irregularly colored,
		virginalis	of the purest white,
		vernalis	flowering in spring,
Of general signifi cance.			
gracilis			slender,
glabra			smooth, bare,
hybridus			between two species,
officinalis			of practical use to man,
ornatus			decorated, beautiful,
semperflorens			always flowering,

C. A. HESSON: This is a report of very great moment, not only to the members of the Convention, but particularly to the associations which we represent. That report makes certain recommendations which can be left to the incoming Board of Directors. I think we should, as a body, adopt this report, and make it one which will be the basis of something which will be very much larger. I move its adoption, and that the thanks of the Convention tendered to the Committee. Carried.

JNO. CAVERS: If you go into a city store and ask for Kniphofia hardy, you will find it is hardy as in the first winter it is not killed out. It is the wet that destroys it. The only way would be to cover it over. In my own case I take them up in the fall.

H. J. MCKAY: I move "That the allowance to each delegate appointed to the American Civic Association should not exceed a sum of $25." Carried.

C. A. HESSON: On the subject of Mrs. Potts' paper, we have expressed appreciation of it, still I think that a paper of such value calls for some practical work rather than may I say, clerical distribution. If the paper is to be of use to us and the various societies which we represent it is essential that this Convention

should take some active step to further the question of introducing horticultural work among our school children. It is full of good and leading points which can be picked up readily, but this Convention is in a parent position, and should lead in this work. While I am fully in accord with the publication of the paper, enough has not been done, and we should place that work in such position that it will be readily taken up and acted upon. During the course of that paper the remark was made that there was a considerable amount of good material available from the gardens of the members of the Society. If that material can be available at the instance of some committee it becomes twice as good, and the recipient must necessarily take care of it, and find somewhere where it can be planted. I believe there is considerable material of this kind at Niagara Falls Park and in experimental farms—material that is thrown out in the annual overhauling, perennials

Pentstemon Gracilis.

particularly. Would it be possible for the directors to take the matter up, and devise some scheme for the distribution in some systematized way which would force the incoming board of directors, either as a whole or by a committee of its members, to take up and consider the best means for furthering the work of interesting the children in gardens and horticultural work, and that they be authorized to introduce and put into execution any scheme which to them may seem best."

The motion was adopted.

INDUCTION OF THE NEW PRESIDENT.

The President, (addressing Mr. J. H. Bennett): You are coming to the presidency of an organization which has given your immediate predecessor a very great amount of pleasure and satisfaction, and I pass you on to the chair I vacate, wishing you and your associates in the work God's blessing.

J. H. Bennett then took the chair amid applause, and said: I hardly know how to thank you for the honour conferred upon me. When I left home I had no thought of ever becoming President of the Association, in fact, I felt I had served so many years as director that it was time for me to retire, but you have decreed otherwise. I feel the responsibility upon me, especially as the chair has been filled by so many able men before me. I cannot lay claim to any ability, but I am an ardent horticulturist, and as an executive worker I have some reputation. I will give my best efforts to the Association, and my services are at your disposal at any time, if I can be of advantage to you.

NOTICES OF MOTION.

J. C. Spencer gave notice of motion as follows: "That district number four be divided into two districts, viz.: (1) York County; (2) Ontario and Peel Counties."

A. T. Armstrong, Millbrook, gave notice of the following motion: "That each district nominate and elect their own district director."

Dr. F. E. Bennett, St. Thomas, gave notice of motion as follows: "That Lambton County should be removed from district number 8. and put into district number 9."

E. E. Starr gave notice of motion in the following terms: "That Toronto be a district, and Ontario, balance of York and Peel be another district."

W. J. Diamond: I move that at the next annual meeting of this Association, the third clause of the Constitution be amended by adding after the word "Auditors" in the fourth line, the following: "That nominations for the representatives for the Canadian National Exhibition and the representatives to the American Civic Association, and Committee on Names and Varieties, shall be received."

HOW THE ST. THOMAS HORTICULTURAL SOCIETY BECAME THE LARGEST IN THE PROVINCE.

Dr. Frank E. Bennett, St. Thomas.

When I received the invitation of your Secretary, saying that he had placed my name on the programme of speakers, and had given me a subject on which to talk, namely, "How the St. Thomas Horticultural Society became the Largest in the Province," I smiled to myself at the simplicity of my task, I had only got to tell them that it was done by hard work.

But second thoughts led me to the conclusion that Mr. Wilson's pill was not so sugar coated as it looked, and I soon realized that there was more in it than at first appeared. A study of the matter soon awakened me to the fact that to avoid wearying my audience I should have, as newspaper men say, "to boil it down to the bones and then throw the bones away."

Then, too, I was faced by another phase of the subject that worried me not a little, namely, how to tell the history of the last three years of the society's work without placing myself in danger of being considered egotistical, for its

growth has been so largely a realization of my own dreams of what a Horticultural Society might be and should be. So, if my story should have in it somewhat more of the "I" than you can appreciate, please remember that I am including in it the men who have so splendidly supported my efforts through thick and thin with the result that we now see.

Back in the fall of 1910, when elected President of the Society, I found a membership of 124. Nothing had been done along the lines of public flower beds, and little along educative lines. Realizing that something must be done if the Society was to become a power in the city of St. Thomas, I consented to accept the presidency only on condition that $100 be granted for the laying-out of fifteen flower beds on the wide boulevard which parallels the Michigan Central tracks for over a mile. These flower beds cost us $6 each, the flowers being bought of a local florist.

From the first the people of the city showed their appreciation of our work, with the result that when we canvassed for new members we secured 337. In the following summer we revived the Lawn and Garden Contests, 125 members entering. Liberal prizes were offered, but we found the number of classes was too limited, as, for instance, in the garden competitions, the workingmen's gardens coming in the same class as the gardens of those who could afford to employ gardeners to tend them.

Monthly flower shows were organized, starting with tulips and spring flowers, then paeonies, then roses and so on, through the summer and fall, each class of flowers in its turn. Where did you hold the shows? you ask: In store windows, and to this fact I largely attribute the growth of the St. Thomas Society. Each succeeding show was an increasing success until with the last the problem was to accommodate the entries. The shows were always held on Saturdays, which, being market day and a kind of parade day, enabled large crowds of sightseers to see something of what the Society was doing. The show windows were the objective of large crowds all day, and especially in the evenings.

With the exhibits in the store windows the people can hardly help seeing the beautiful flowers, and becoming first interested and then converted to the aims and objects of the Horticultural Society. We charge no fee for these shows because the people who can afford to pay and would pay are those who already grow flowers and are already converted. The Society furnishes receptacles for the flowers and also gives prize cards and prizes for the best collection of flowers which become the property of the Society.

There is always a big demand for these prize winning and show flowers, and much money could be made by selling them, but we have adopted in St. Thomas what we believe to be a better plan in that it has helped immensely the popularising the Society and its work. We ask the pastors of all the churches to provide us with the names of any sick and aged people of whom they know, and early on Sunday morning autos are called into service and the bouquets distributed, each bearing a neat little card tendering the compliments of the society to the recipient. Try this in your own town if you wish to make friends for your Society.

Then, too, in this distribution of one of nature's finest gifts to man, "the stranger within our gates" is not forgotten, the poor foreigner in the hospital receiving a bouquet along with the rest. Nor are the old folks in the Home overlooked, some of the best are always saved for them, and I wish some of you could be with me and see the faces of the poor old ladies, "somebody's mother," brighten as they gaze on and touch with almost reverent care the flowers that

remind them of days when fickle fortune smiled on them from some almost forgotten flower bed.

But I must hasten. Another fall has come, more flower beds have been laid out, planted and now are frozen, but not before they were replenished with tulips whose bright colors will soon be heralding the coming of another summer.

Another membership campaign is on, and from a membership of 337 we have jumped to 708, with every prospect before the campaign of 1914 closes of over 1,200. Here are some of the many reasons given for joining the society: "We like the flower shows," "We like the public flower beds," "Everybody seems to be cleaning up," "We value the premium you give," etc., etc.

By the way, I had forgotten to tell you that it had been customary to give each member a rose or shrub and a dozen bulbs and the *Horticultural Magazine.* This year sixteen different optional premiums have been arranged. This fall we

A Street in Letchworth Garden City.

have given away 16,000 bulbs and have imported 90,000 more for our members at cost price. Some of the options are 150 bulbs, another is four of the best hybrid perpetual roses, etc.

During the winter of 1912-13 we planned a larger and broader lawn and garden competition, giving the workingman a class of his own and the man who had a gardener a separate class. Some good prizes were also offered to the janitors of the public schools and Collegiate Institutes for the best kept lawns and floral effects with wonderful results.

The co-operation of the Board of Trade was secured, and a splendid cup offered for the best kept factory grounds, while another very popular contest was that among the school children. Prizes in cash and goods in value $300 were awarded in addition to several valuable medals and cups. The usual monthly flower shows were held during 1913, and at the last show 500 entries were received, taxing to their utmost two large store windows and making it almost compulsory to secure larger quarters for the shows of 1914.

The merchants, bankers, and owners of factories located on corner lots were especially canvassed, and their interest in the beautification of the city secured, with the result that nearly every corner in the city now has its small boulevard lawn and flower bed. Fifty-two public flower beds, most of them 20 feet by 4 feet were planted, so many as possible being placed along the route of the street car belt line where the most people would be able to enjoy the beauty of the flowers. Eight more beds have been added this fall, and have been planted with tulips. Flower beds have been placed at the City Hall, the Public Library and the Post Office, and in each place the lawns have been improved, while the rivalry for the Board of Trade Cup has created the keenest possible competition among the factories of the city.

I had almost forgotten one big factor in our success, I refer to the splendid service and support given to the work of the society by the local press. When you have printing to do don't go round the corner to a cheap shop, give it to your newspaper, even if the price is a little higher, and you will reap your reward.

As I have said before, new members are joining by dozens, and every old member is renewing his subscription and membership, and with a concerted effort we may reach the 1,500 mark, and we will do it.

Before I close I would like to give you a few pointers on canvassing. Send out enthusiasts, workers and not drones. Have several good arguments to offer as to why a citizen should be a member of the local Horticultural Society. Then, if all others fail, try this one as the "Open Sesame" to the flintiest heart and pocket-book. I have tried it and I know. Whenever I meet one who is particularly hard to convince I put this proposition to him: "Is it not worth a dollar to you to have St. Thomas made the finest city in Ontario?" And hardly ever have I had any answer but "Yes." At this point pull out a membership card fill it up and hand it to him with a receipt and wait for the dollar. You will not have to wait long; that inherent civic pride germ works quick and you have another member.

To conclude and summarize, put out plenty of public flower beds, hold frequent flower shows, arrange lawn, garden and floral beautification contests; form street improvement societies, give liberal premiums, elect none but workers on the executive. And, here a word of warning, avoid as much as possible placing semi-professional horticulturists in official or executive positions. It has an unfortunate tendency to dampen the interest and ardor of the amateur. By following these suggestions you will soon have a society like ours, or even better.

VEGETABLE PRODUCTION ON A THIRTY-FOOT LOT.

George Baldwin, Toronto.

I hope it is no egotism to state that in both the floral and vegetable departments of amateur gardening in which I have been engaged for the past eight years, I have been entirely successful from a prize-taking point of view. For instance, in 1912 I won $101 in prize-money, one gold and four silver medals and a silver cup; and in 1913 I have won about $80 in prize-money, one silver and two gold medals, and the $100 silver cup for the third year in succession. Consequently it now becomes my own property, and, believe me, there is no prouder man in Ontario to-day. You will also agree that I have to work hard, when I tell

you that all my gardening operations have to be done before seven a.m. and after six p.m., with an occasional Saturday afternoon and holidays.

The happiest life, in my opinion, is that which is full of the most agreeable occupation.

Now, if gardening be considered as an amusement, as a game in which your neighbors and competitors are striving to win, it becomes truly delightful and gives good results in return for the energy you put into it.

Any kind of gardening will become a science, full of interest and enjoyment, provided that you go at it with a will and in the right way. Otherwise, you will meet with disappointment.

Original wealth came from the soil, and, while I do not garden from a commercial point of view, the foregoing list of prizes will convince the most sceptical that there is still wealth in the soil.

The two most important qualifications or essentials in gardening are energy and ambition. Energy is as necessary to a garden as oats and hay are to a horse, if you want results. Ambition in a gardener is like steam to an engine, or butter to bread. With these qualifications in gardening, a man never knows when he is beaten.

Gardening should be regarded, as I have already intimated, as a game, which is played from the love of it, rather than from necessity.

It is infinitely the most absorbing hobby or amusement you can think of. Knowledge of it is essential to success, though there is no royal road to that knowledge. But rise up early in the morning and get busy, noting the mistakes and omissions you make this year so as to rectify them in the next. Join the Horticultural Society of your district ($1 per year), and get all the information therefrom for all kinds of gardening.

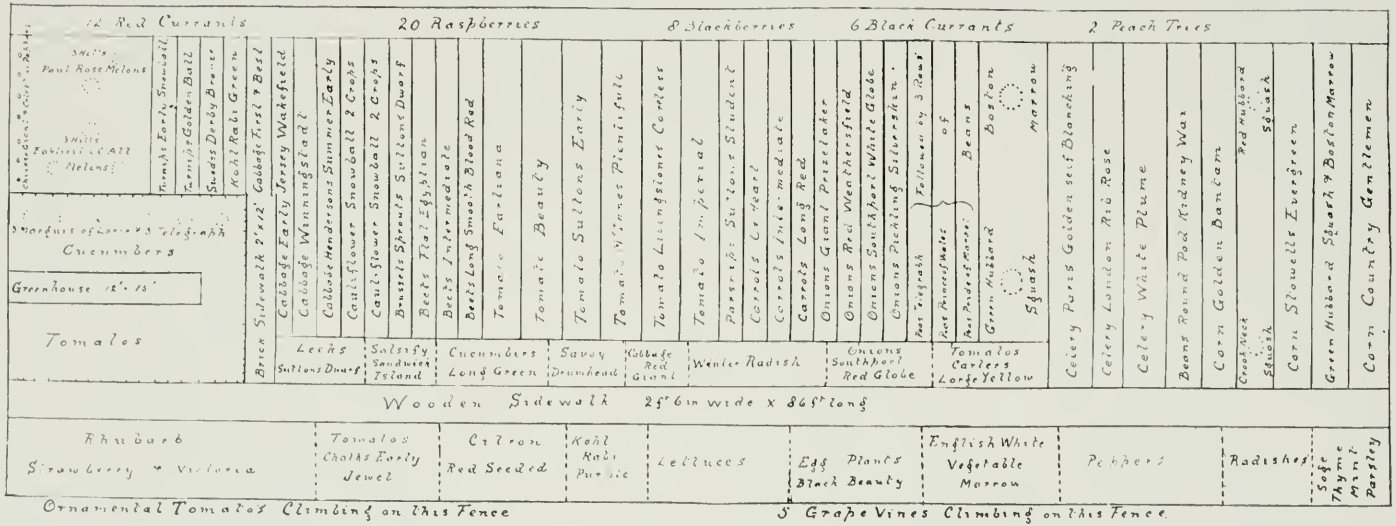
Let it be distinctly understood that you cannot be a baseball "fan" or an automobile enthusiast, as well as a successful gardener.

The main thing is to grow well what you do produce, and that means a study of your garden. It means procuring good seed. It means learning how to fertilize and how to fight the bugs. It means a lot more than I can tell you in the short space of time allotted to me. But I shall make a few suggestions which may help the amateur to make the most of a backyard similar to my own, where I put in hours and hours of pleasure.

In 1912 I tried to see how many varieties of vegetables it was possible to grow in my garden, and I accomplished eighty-two. Here is a rough sketch or plan of the garden for that year, and I may add that I always work to a plan which I prepare in the winter time:—

Hot Bed. To make a success of your garden it is necessary to have a hot bed or greenhouse. I prefer the latter, and I built one myself out of my prize money, 12 feet wide by 15 feet long, and equipped it with a small hot-water boiler and three rows of 1¼ inch pipe all round.

Sowing Seed. About the second week in March, after buying what seeds you require, look over your plan and see which seeds need to be started in heat, sowing some of each of the following: Cabbage, peppers, egg plants, tomatoes, lettuce, onions, celery, melons, and citrons. If you use a hotbed, sow the seeds in rows three inches apart. If you use a greenhouse, sow in seed pans or shallow boxes—empty cigar boxes are good—keeping them as close to the glass as possible, so that the seedlings will not get spindly. Use lots of seed, as it is easy to thin out. Press seeds in firmly, cover thinly with soil and keep moist. When they



Plan of Garden, 27 feet wide by 86 feet long, with 82 varieties of vegetables in it.

have the second or third leaf transplant into berry baskets, putting about six seedlings in each, and keep them growing on until time for planting out in the open.

Preparing the Garden. The garden should be heavily manured and dug roughly in the fall, only digging that part of the garden again in the spring where you intend growing cabbages, cauliflower, lettuce, tomatoes, egg plant, peppers, etc. Merely rake the ground over in the spring where you intend planting beets, carrots, parsnips, salsify or other root crops. This will prevent the roots growing crooked.

About the 15th of May prepare your garden to receive the seedlings which you have raised in hot beds, also for seeds which you sow in the open, following your plan to the letter. I find it a good method to take a rule, with a pot of white paint and brush, and make a mark every 18 inches along the fence, as this is the usual distance for planting vegetables—cucumbers, squash, tomatoes, etc. If you need more room give them two spaces.

Date of Planting. All planting, both seeds and plants, should be completed by May 24th or 31st at the latest, being governed, of course, by weather conditions. The first week in June is time enough to plant out pickling onion seed, celery plants and winter radish seed.

Squash, Marrows, Cucumbers. Sow the seeds of squash, marrows, and cucumbers in hills that have been prepared 3 ft. apart each way, by digging out the hole 15 inches deep, putting in well rotted manure, and covering over with soil to a depth of four or five inches. Press the seeds in edgeways, firm down thoroughly and scatter a few radish seeds in each hill for the squash bug to feed on.

Planting Tomatoes. Prepare the ground for tomatoes similar to the squash, putting the plants the same distance apart, except the ornamental varieties, which do best growing up the fences, besides giving your garden a better appearance.

Varieties of Tomatoes. The best varieties of tomatoes for a city back garden from my experience are Livingstone Globe, Livingstone Coreless, Earliana and Chalk's Early Jewel. You can economise on space and get better results by only allowing four shoots to each tomato plant, which should be trained up sticks 1 inch square, 4 feet 6 inches above the ground, at an angle of 75 degrees outward. You will find by adopting this system that you will have four sets of fruit ripened and one set for green tomatoes on each stick. The fruit will ripen quicker, have a better flavor, will be smoother and larger than if allowed to run all over your lot. Pick the fruit as fast as it ripens to give the rest a chance to fill out. I also have a method of planting tomatoes which I have found very successful, and that is, after preparing the hole, fill in with soil on the slant, from the level of the ground at one end of the hole down to 6 inches at the other end. Then lay your plant on this slanting bed and fill in with soil, firming it down well. Tie the plant to a small stake so as to keep it in an upright position from the ground up. The object of this is to give the plant more moisture and more root and consequently better growth above.

Carrots, Turnips, etc. I do not think it needful to waste your time by explaining how to grow carrots, turnips, parsnips, beans, or peas, as they are vegetables that will grow in spite of inattention, provided they are thinned out and cultivated occasionally.

Cabbage. For early cabbage and cauliflower, so seeds in hot bed about March 15, and plant as soon as the weather permits. And for late crops, sow seeds in a warm corner of the garden.

Varieties of Cabbage and Cauliflower. Winningstadt, Henderson's Sum-

mer and Glory are three of the best cabbages, and Snowball is the best cauliflower for narrow gardens between board fences.

Onion Culture. Onion seed should be sown in heat about March 10th, forced along, hardened off, transplanted about May 10th into good rich soil, such as your last year's celery bed, planting from four to six inches apart in rows eighteen inches apart to enable you to get between with the hoe to cultivate deeply and regularly. If you want big onions, feed once a week with strong liquid manure. When plants are in the young stage, scatter some slacked lime or powdered sulphur occasionally to keep down the onion maggot. The Southport onions are the best—red, yellow, and white—but have a row of Prizetaker as well.

Celery Bed. The celery bed should be prepared in the spring in the following manner: Mark off with string the size of bed required, say for four varieties, 18 inches apart. Consequently it will need to be 7 feet 6 inches wide, or five spaces on your fence, rows running north and south. Shovel the earth out to a depth of eight inches, throwing it up in a ridge on either side. Fill the trench up with well rotted manure, which dig in deeply, tramping over this and digging it again, to ensure the manure being well incorporated with the soil. Then throw three or four inches of fine soil on top, into which put the plants eight inches apart in the rows, keeping the bed moist and constantly stirred right up to the time for bleaching. Use the ridges for growing radishes for the table. You may get two or three crops before you need the earth for bleaching.

Bleaching Celery. I prefer earth in preference to boards for bleaching the celery, as it gives it a sweeter and nutty flavor.

Varieties of Celery. For varieties I have the best success with White Plume, Paris Golden, Rose Ribbed Paris and Evan's Triumph, the latter two for late varieties. Have your plants good and strong before putting out, plant firmly, and give liquid manure regularly up till earthing-up time commences.

Leeks and Salsify. Leeks should be treated the same as celery. In fact, I always plant them in the same bed.

Salsify needs the same treatment as parsnips. Rich soil is not necessary.

Garden cucumbers should have the earth about them constantly stirred up and kept moist.

Egg Plant. Do not forget that if you grow egg plants you must ever be on the watch for potato bugs, as they will leave your neighbor's potato patch and eat up your egg plants in short order, if not picked off regularly and the plants sprayed.

Pickling Onions. About June 10th sow your seeds of pickling onions and winter radish. The soil need not be rich. Sow the onions thickly, so they will come up like grass. They will push one another out of the way.

General Remarks. A few general remarks in conclusion. Constant vigilance is truly the price of success in the growing of garden crops. What with worms, bugs, and all manner of flying and creeping things, plus blight, mildew and rust, the path of the garden maker is edged with thorns, as well as roses. However, let me hasten to tell the beginner that rarely do all these things come at the same time, and some not at all in many gardens. The best way to insure immunity from garden pests is to grow strong, vigorous plants, use good seeds and keep the ground well enriched and constantly cultivated.

The best time for watering is the evening, but above all do not sprinkle the foliage in the hot sun, as that causes brown spot and blisters. I am a firm believer in nitrate of soda in liquid form, a handful to a pail of water, in the early part of the season, also during very dry spells.

The main point to be regarded in transplanting is to handle the plant carefully. Dibble your hole big enough to allow you to put all the roots in a downward position, especially with the cabbage family and celery, as failure to do this is the primary cause of stunted growth. Always plant firmly, and shade to prevent the sun from scorching and withering.

It should be borne in mind that it is not Nature's design that a plant should be transplanted, and we ought to show sympathy for a plant, as well as for our fellow creatures.

And now, having taken a walk through the kitchen garden, all I have further to say is, may you have a successful season next year, and may you be favored with reasonable rain and sunshine. For, be it remembered, that without the co-operation of the elements all our efforts are in vain.

J. A. Webber: I wish to draw attention to an article in the public press that a movement was on foot in Essex County for the reduction of the public highway, and the probability of a measure being introduced in the Legislature at an early date to that effect. As a member of the Hamilton Association we have done everything possible to encourage the beautification of the streets, and have done a great deal in that way, and I desire to place a resolution on record to the effect that this Convention is opposed to the passing of any measure that will reduce the standard width of the public highway, which is 66 feet throughout the Province.

The President: Some recommendations were made, but whether anything was done I cannot say. We will have to wait till the meeting of the Legislature.

Dr. Brownlee: The production of that thirty foot garden is a wonderful thing, but a word of caution. I have a fruit farm as well as being a professional man. I have just broken myself down by trying to do what Dr. Baldwin is doing—making work out of pleasure. In raising cucumbers, often they decay and die, that is the roots, and I cannot see any cause for it.

G. Baldwin: There is a limit. Four years ago when I joined the society in Toronto a cup was offered. That cup I was after, and I got it. I am going to rest on my oars now. I put up a 100 candle power lamp to help me. With regard to the cucumbers, my experience has been that in the majority of the city back gardens the working man rushes home, swamps everything, and cucumbers, squash and marrows do not want that kind of watering. They want the ground stirred and the water at the roots. Another good thing is to get a nail keg and bore four holes round it, and fill the keg once or twice a week with water instead of using the hose, and scatter pyrethrum powder or sulphur round.

W. B. Burgoyne moved: "That the Board of Directors be authorized to present to the Hon. the Minister of Agriculture the fact of our increasing membership again outgrowing the annual grant to the Horticultural Societies of the Province, and that unless the grant be again increased there would necessarily be a reduction in the grant to almost all of our societies, which in many cases would mean financial embarrassment; whereas, we deem it of importance that the work of our societies should be encouraged to the utmost." Our membership has increased by 3,000. It is two years since we got the last increase, and if we got $15,000 we would be outgrowing that again before going to him once more.

J. Lockie Wilson: Mr. Burgoyne has been an ardent supporter of our work, and has been of inestimable value to us on the Board. I move that he be appointed an Honorary Director.

Rev. A. H. Scott seconded the resolution. Carried.

ROSE PROPAGATION.

J. M. Bryson, Toronto.

The following remarks are intended chiefly for the amateur, and the beginner, but it is possible that some of the points dealt with may be not without interest to those who have already acquired a more extended experience in the cultivation of the queen of flowers. I shall, therefore, confine my remarks to a few leading characteristics to which it is desirable that the attention of the cultivator should be drawn.

The Genus Rosa of the botanist is one of those groups which it is easy to define, and which a person finds little difficulty in recognizing from other plants. The Genus Rosa is mainly distinguished from other plants not only of its own order, *Rosacea*, but of all others by its peculiar fruit; this is what is familiarly called the hip, and its structure demands a little attention. By tracing the flower stalk from below upwards, or making a slice lengthwise through the hip, it will be seen that the flower stalk itself gradually dilates and becomes fleshy, and ultimately brightly colored. The receptacle, as this part of the flower is botanically called, forms in fact a sort of cup or vase, inside of which may be seen a number of small hard dry nuts, each with a long thread at the top. These are generally taken by beginners to be the seeds, but they are, generally speaking, not the seeds, but the carpels, or seed vessels, each containing a solitary seed. The long thread is the style at the end of which is a button-like dilation, which is the stigma. The hip, then, of the rose consists of a vase-like swelling of the petals and stamens from a rim just within the edge of the vase and bearing the true seed vessels, or carpels, at the bottom. Having now endeavoured to convey an accurate notion as to what constitutes a rose in a botanical sense, I will now pass on to the culture of the Briar, which is the next step in Rose culture.

As many of our finest varieties of Roses are not very vigorous in constitution, consequently they do not thrive well on their own roots, or, in other words, when propagated from cuttings. They therefore require to be budded upon some stock which they like and which is calculated to impart additional strength. The principal stocks in use are the Mannetti or Italian, the seedling Briar, and the cutting Briar. Each may be said to be best, best for the variety that does best on it, and which can only be known from practical experience. As a general rule, the Hybrid Perpetuals, with some exceptions, do best on the Mannetti, and the Teas on the Briar, some of the Hybrid Teas doing equally well on either stock. As a rule, the Mannetti where the ground is light or free does best, but for heavy or wet soils the Briar is best for all sorts. The only Rose stocks known or thought about a few years ago were those tall wildings of the woods. They were valued more for giving elevation to Roses than as modes of rapidly increasing their numbers. A few were collected in the fall, planted any time during open weather, and budded the succeeding June, this simply finishing the matter of Rose stocks for the year; but now Briar culture has risen to the dignity of a trade. Those not conversant with the magnitude of the Rose industry can have no idea of the thousands and tens of thousands collected and planted each year.

Nurseries have been crowded and the surplus stocks of Briars have overflown into fields of many acres in extent and furnished not a few farms. On some railroads carloads of Briars during the months of October and November are as common as coals. Doubtless standard Briars fill a useful place in the garden,

being also first in the field, they hold their own firmly against all comers. Their mere elevation imparts dignity to the Rose which crowns them, and they can be converted into a Tree Rose within a year from the time of planting. A thorough and proper pruning of Standard Briars must precede the planting, and extend to the roots as well as the tops, the former being often represented by large pieces of underground stems, they may generally be shortened back to within three or four inches of the root stocks. The tops may also in most cases be shortened back so as to leave the stem as straight as possible. To grow Briar stocks well the soil should be equal to that suitable for Roses. The Briar has been accustomed to endure harness in the open field, but in the budding grounds they must have something good to feed upon if they are to form strong fostermothers for the coming Rose. A good distance to plant standard Briars is a yard between the rows, and from six inches to a foot from plant to plant. Another way is to plant two rows, the plants alternately, not opposite, nine inches or a foot apart, and leave a space of four or five feet between the double rows. This affords greater facility of access for disbudding, budding, and other necessary operations among the stocks. Plant firm in order to insure this and to dispense with the need of stalks. The temptation is strong to plant too deeply. By thrusting the root stump a foot or so into the ground and treading the soil firmly around its stem, the standard Briar bears the wind with impunity, but on no account should they be planted more than half that depth, treading them in firmly after filling in. After planting nothing more is required until the spring, then as soon as the buds begin to swell all should be removed except two or three of the most forward and best placed on the Briar standard. As a rule, these will be found near the top of the standard, though not always, the stock being afterwards headed down to these. Thus treated, the stocks will speedily grow into buddable condition.

Budding. As free growth in the stock is needful to enable the bark to separate freely from the young wood beneath it may be called one of the essential mechanical conditions to successful budding. The moving sap, provided the current is neither too full, nor strong, carries healing to the wound and the healing unites the bud to the stock. Bud before the leaf is on and the bud is either washed out or decomposed. This is easily proved by experience. There is a period or stage growth most favorable to the taking of buds, that is within a month or six weeks after the full development of the leaves. To bud earlier than the end of June or the first two weeks of July invites failure, as all the more essential conditions already described will be found to exist at this particular season. Cut a branch or shoot off the rose bush that is to be thus propagated. It is generally necessary to cut almost the whole of it, as the best buds will be found at the base. Then carefully rub off the prickles and trim off the leaves, leaving a small portion of the leaf stalk intact. Few budders remove the spines till they are ready to remove the bud, unless it be a place where the art is practised on a large scale. Dress the stock by rubbing off the prickles from two to three inches of the base of the shoots growing upon the Briar stock, and make a slit with the knife or thumb-nail in the centre of the upper side of the shoot about an inch long, being careful not to penetrate deeper than the bark. Most operators also make a cross-cut which, with the longitudinal one, forms the letter T. The only use of the cross-cut is to facilitate the raising of the bark. Taking the rose branch, or bud stick as it is called, in the left hand, the lowest bud, with about an inch in length of its wood and bark is cut out. In no case should the pith be reached or penetrated, about two-thirds of the half circumference of the shoot being a

Rose Hedge.

good medium. Skillful budders by inserting the knife a half an inch above the bud reach a maximum depth immediately under it, and regain the surface about half an inch beyond it, in that way turning out pointed sections, almost as if the knife were a cutting mould, this section being pressed gently home into the slit that has already been made in the stock. Tying in the buds should be done the moment they are inserted, for the greatest enemy to the rapid union of buds and stocks is air, or rather the drying effects of the latter on such delicate tissues. The air not only wastes the most precious juices of the plant, but dries up and destroys their viscid properties or those that cement the union between them. The tying is therefore a mechanical safeguard to keep the bud in position, and not as many seem to suppose an active uniting force. It is important, however, that it should be so firm as to render the parts immovable, yet not so tight as to hinder circulation or wound the bark. Begin at the bottom and pass the ligature three or four times under the bud, and as many above, and the tie is complete. The time required for the bud to take varies considerably according to the weather and other circumstances, but under ordinary conditions within a month the bud will have become safely united to the stock or have perished. The ties may be removed a month after budding. If left too long they often cause injury to the bark, and irreparable mischief to the bud, almost strangling it by their tightness and checking or stopping its supplies of food. If the union is perfected no further ties are needed.

It is a matter of vital importance that the buds be kept dormant. Some people pride themselves on flowering their buds the same season and this can easily be done, but it is bad form, and may often weaken and greatly shorten the life of the plant. To have vigorous plants and perfect blooms the following season it is essential that the buds be kept dormant till the following spring, but if the buds should break into growth soon after budding they should on no account be allowed to produce flowers. As soon as they have made three or four leaves, pinch off their tops. This course will enable them to form and to ripen several nice buds at the base and these may break into shoots next season not greatly inferior in vigour to dormant buds. From this stage the budded briars are roses and must be treated as such. For some time, however, much of the vigour of the plant will try to rush back into briarwood again in the form of suckers, and these, whether springing from the root or stock must be promptly and vigorously suppressed.

Grafting. This differs from budding in the fact that it generally means the union of two different woods as well as of bark, and that the foreign scion inserted in the stock is much larger than a bud, and generally consists of a considerable section of wood with two or several buds. The art of grafting differs, however, but little in principle from that of budding. Larger masses are concerned in it, and hence the modes of manipulation vary: but the uniting forces are still the same, and these can hardly be said to be the wood but the sap, the cambium or young growing tissue, the bud and the bark. It is of importance to bear this in mind or failure in grafting is almost sure to ensue. It matters less about the mere size of the scions than the close fit of the inner bark of the scions and the stocks. The outer bark is little more or better in regard to grafting than a mere covering. It has little more life than the paper wrap round a parcel. The inner bark is the source of life where the growing tissues are situated, the only active agents in affecting the union between the scion and the stock. The condition of the stock for grafting should not be too far started, but the scion on the other hand should be dormant.

The best briar stocks for grafting Roses are the Mannetti, Boursault, Banksian, and De la Grifferai. Ripeness, firmness, a certain degree of solidity are needful to sustain the life of the scion during its interregnum of separation from all other sources of life but itself. Hence the bases of roses are best for scions, the tops are soft, spongy and full of watery sap, and should never be chosen for scions. The sun and air soon dry up the juices and wither up the buds, rendering the growth or taking of the scion impossible. The length of the scion is of comparatively little moment, although, of course, within certain limits, the longer the scion the greater the risk of failure, neither is there any advantage in having a scion too long, from two to four inches being long enough for any rose, and in many cases shorter ones are better. The actual length, however, is very much determined by the distance between the rose buds, and this varies greatly. Two buds on the heel of the scion and one somewhere in the length or at the base of the uniting part of the scion with the stock will generally be found to be sufficient. The reason for cutting through a bud on the uniting parts is that a larger amount of growing tissues are to be found in close proximity to the buds, and hence, when the bud is removed or suppressed in tying, this living, binding force finds expression in hastening the union between the scion and the stock of the various kinds of grafting. There are only two that may be said to be successful with Roses. These are splice grafting and crown grafting. In splice grafting the term almost explains itself. Each of the two units are reduced to one half of their diameter, along a distance of say three or four inches, the ends of each part terminating in a thin wedge. The two are then firmly bound together. Of course, the splice is more perfect when the two pieces are of the same diameter. This is a mechanical splice—in grafting the ultimate object is to force nature into making a vital splice between the parts. Thus each part fits to the corresponding part, wood to wood, cambium to cambium, bark to bark, all round. The more perfect the fit, then the more speedy and sound the union. Cut the stock across at the height desired, then place the graft against the side an inch from its crown. Take the measure with the eye and make a clean diagonal cut across the stock from the desired spot, tapering almost to a point at its top. It is most important that this cut should be clean and smooth. Having already taken the scion in hand, cut it in the same way, making the cut the exact counterpart of that of the stock, then without a moment's delay, place the two freshly cut surfaces together and bind them tight with raffia, and the mysterious art of splice grafting is complete. If the fit be good and the inner bark of scion and stock impinge against each other along their lines of contact, success is almost certain, otherwise, failure is even more sure. This is the simplest mode of grafting and it is as good as any other. In crown grafting the scion is prepared in exactly the same way as for splice grafting, only the wedge may be longer or shorter as desired. The top of the stock is also squared in the same way, but the wood is all left intact. A slit is then made down one side and the bark slightly raised. As for budding, the wedge portion of the scion is pushed into the slit, bound firmly into position, and the process is complete. There are, however, many modifications of this mode of grafting, but this method which I illustrate is the simplest.

Bud Cuttings. These buds may be larger than those used for inserting in briars, and the section of wood is left intact. The length is immaterial, but the depth of the bud section should never penetrate the pith. The wood section may also be about the same depth throughout instead of coming to a sharp wedge at either end as in the case of the ordinary bud. A thin paring of bark taken off

either side also exposes a large surface of wounded bark or cambium to the contact with the rooting material. This is most important as it invites a development of callus along both sides as well as both ends of cuttings thus manipulated, and each atom of the callus is capable of emitting roots, hence buds thus prepared root all round and develop a perfect net work of fibrous roots. Fill a box, a bed, if out of doors, or a few flower pots with pure sand, place the buds on the surface, which by the way can hardly be made too hard or firm, although it must be smooth, and press them firmly down, filling up with pure sand, until all are covered excepting the upper surface of the bud section. Water freely, and in about six weeks from the time of insertion those bud cuttings should have callused. This is produced along the ends of the bud section between the bark and the wood, and also along the sides of the bark. It is neither stem nor root, but something between the two, and the source from which all roots spring. So soon as it is thoroughly developed the bud is safe and will under fair treatment form roots around the sides and ends so that rooted buds are furnished with a perfect network of fibrous roots at all points and these of the best possible quality for feeding purposes.

Roses from Cuttings. This consists in the making and inserting of the cuttings, which should be about six inches long, in the usual way in pots and boxes, pots, preferably, filled with pure sand which should never be allowed to become dry. Select wood which is in a semi-ripe condition with a heel of old wood attached, if possible, from which the pith section should be removed. Trim the leaves off, at the same time taking care not to injure the eyes, and insert firmly in the sand.

Some people assert that cuttings taken from budded stock are not amenable to this mode of culture. One or two I admit are not satisfactory, but 75 per cent. of the varieties in the Rose world to-day do as well on their own roots as they do budded on the briar, although they have not the same lifetime. One pointer I would like to give you on striking Rose cuttings is this: that those varieties that are heavily caned and spined will in almost all cases be found to be the most satisfactory. I refer to the Hybrid Tea Section, although Frau Karl Druschki and several others of the Hybrid Perpetual varieties are just as vigorous on their own roots as they are when worked upon a briar stock. On January 28th last, I took from outdoors 500 Rose cuttings of some 35 varieties, and struck them by the cold and warm method, planted them out on April 17th, and exhibited some of the blooms at the Rose Society of Ontario's Exhibition on July 3rd. I merely mention this fact to set at rest the fallacy that Rose cuttings are difficult to strike or propagate.

Spring Cuttings. Since the forcing of Roses has become general, it is obvious that large quantities of Roses will be found under glass during the months of February and March with their wood in similar condition to that out of doors in June, July and August. The wood of some roses is even in better condition for propagating than those in the open air. Cuttings from forced roses seldom fail to root freely, and also bear forcing treatment with less risk than other roses. Were this true of Teas only it might be easily explained, but it applies to all sorts and conditions of roses grown under glass, and the fact is of the utmost practical value to the rapid multiplication of rose plants by cuttings. So soon as each batch of bloom goes off is the best time to strike those cuttings. The name is about all they differ in from other cuttings. No cuttings root so freely with such a small percentage of loss as those of forced and other Roses put into heat in the spring.

One strong argument in favour of rooting Rose cuttings at that season consists in the fact that they have all the summer before them to grow into. The cuttings also root sooner in the spring than at any other season. Hence, if inserted in February, they may be rooted, shifted into single pots, grown into considerable size, hardened off and planted out by the middle of May to furnish a good crop of bloom before the end of October, when after a short rest they may be dug up and put into heat right away, as they force very fine when grown in this manner. Of course, they will winter outside in the border just as well if not better than the budded stock, as there is no union of briar and stock, and as this is the tender part in wintering roses, they are, consequently, better fitted to stand the cold.

Pruning Roses. One of the most important points in achieving success with roses is the matter of pruning. The majority of people do not consider, nor do they study the object aimed at in pruning. It is painful to see some bushes pruned with no more thought or care than if the operator were pruning a hedge. All the shoots cropped over, big ones and little ones alike, the result being that the strong shoots give a few flowers, possibly only wood, while the small shoots produce a few sickly yellow leaves. The first object should be to select a few strong well-ripened shoots (the number will depend on the size and age of the plant), and, for dwarfs, the nearer to the ground these shoots are the better. All the short prematurely ripened wood should be cut clean away, leaving only those I have described. Those should be cut back according to the strength of the shoots or variety from 4 to 6 eyes or buds. The stronger they are the longer they should be left, care being taken to cut to an eye, pointing outwards. By this method plants should grow vigorously, bloom profusely, and keep young and healthy for years. Pruning should be done late in March, or the middle of April for Teas, but, if planted late the same season, the tops are better left on, as this encourages root action, when they can be cut away as soon as growth is apparent.

Root Pruning. This, of necessity, has always been more or less practised, unless Roses were sown or budded in their permanent quarters. It is obvious that they could not be placed there without more or less root pruning; and, as if this were not enough punishment, their lacerated root stalks are not unfrequently tossed about and exposed to sun, frost and biting winds, as if they were lifeless things, and so not a few of them are before they get back to mother earth. Some such cutting and carving of rose roots may be unavoidable; but the less the better, as these are not what I mean by root pruning, nor is transplantation, though that often necessitates root pruning in its most severe form. Suckers should be removed, bruised roots cut off with a sharp knife, and not as I have seen it done, by holding the root over a block and chopping off a chunk of root with an axe, in the same fashion as some people would kill a fowl by chopping its head off, but by holding the rose bush firmly in the hand and making a deliberate and clean cut away from the operator, leaving a short clean cut. The detachment of the roots from the soil will prove a sufficient check to growth without reducing the roots: though, as a matter of fact, they are greatly reduced in the process. By root pruning here is meant special and voluntary pruning for specific purposes. The first of these is to prevent the need of so much top pruning. A rose plant runs to wood chiefly with a lot of Rosarians. The old remedy was to cut the wood back severely. The result was more wood still, and a greater strength than before. The modern remedy for excessive top growth is root pruning. Search out and find a few of the strongest roots and cut them back to within a foot or so

of the root stock, and any excess of growth will begin to cease from that period. Another result of judicious root pruning is an increased amount of bloom. Moderate sized wood is usually more floriferous than that which is more robust, although the heavy canes or maidens produce the first quality of rose blooms.

Method and Time for Root Pruning. These as I have already said are indirect and direct. The mere moving of the roots to see if pruning is necessary is an example of the former and even were none cut or destroyed some of the benefits of pruning would result from it. The extent of the direct pruning has to be determined on the spot and will depend on the number, size and health, flatness or otherwise of the roots and the vigour of the tops. One-half or two-thirds may generally be cut away with safety. The uncovering of the roots also affords an excellent opportunity for the removing of the whole of the underground system of briar and applying fresh soil to a border which is partly worn out. This will rapidly assist in the formation and development of a better class of roots—that is to say more fibrous or feeding ones. Some people imagine that with the fall of the leaf their labor and duties to the Roses comes to an end for the season. There could hardly be a greater mistake. It is just then that the cultivator can do the best and most for his roses. During the summer he can operate on the rose above ground with impunity but the fall throws roots open to his free and safe interference. October is the best month in the year for root pruning. Wounds made them heal almost on the heels of the knife, as roots are formed at this time with extraordinary rapidity. Sufficient time also intervenes between the operation of root pruning and the growing season to enable the roots to care for the wants of the branches soon after growth starts in the spring.

Planting Roses and Time to Plant. Planting should always be deferred until the soil is in a proper condition to receive the plants. There is no greater mistake than planting roses in wet soil. The soil to be in proper condition for planting should be dry and free. From personal observation taken at Moore Park, Toronto, in the last four years, I have found that the best time to plant Roses which have been raised or grown in Canada is in the last week of October, and for imported roses the second week of April, although, with good culture, Roses may be planted safely up till the middle of June. Care must be taken not to plant too deeply. Placing the union or callus three inches below ground will be about right for dwarf Roses. Also be particular that no manure comes into direct contact with the roots, which should be well spread out and not allowed to cross one another or coil around as if it were a lady's coiffure you were dressing, instead of a rose bush. After filling in the soil to the level, tread firmly with the foot, but always leave a rough surface. While dealing with the planting of roses, I would like to mention an experience I had in Moore Park with late planted roses, all of them Hybrid Teas except one hundred and fifty, which were Hybrid Perpetuals. Some three years ago we received a very late consignment of three thousand of these bushes on the 10th day of June, they having been delayed in transit. The condition of the entire shipment on arrival was positively painful to look at. They had become heated as a consequence of their long incarceration, and showed no green wood at all, except just around the union, and among those roses were some of the finest varieties of Hybrid Teas in the rose world to-day. After soaking them in water—roots, tops and all—we planted them the following week, and after a very anxious and strenuous time we cut the first bloom off a Betty on July 18th the same year, and during the exhibition two weeks in August we cut from these same bushes one hundred

Roses.

dozen blooms, a dozen on an average, and out of the whole bunch only lost 84 bushes. The bulk of that consignment of three thousand bushes are the finest roses we have in the Park to-day. I mention this little experience to give you an idea what amount of punishment roses will stand before finally dying out.

Soil. The best soil for Roses is a strong, holding argillaceous loam so tenacious as to almost touch clay in some of its more inviting forms. To understand this more fully, it may be added that not a few soils that are called clay when wet turn into strong loam when dry. Though such loams are on the whole the most favourable for the perfect cultivation of Roses, it must not be asserted however, that they cannot be grown on others.

I have seen prize Roses grown on soil so light that it could be driven and drifted like sand during protracted drought, and also on sheer peat. The mere natural quality of Rose soils is often of less vital importance than might at first sight, appear, inasmuch as in very many cases the soil is the mere dish, shell or basin to hold the materials which are so freely given to Roses to feed upon. While saying this much so that nobody may despair of growing fair Roses with soil such as they have or can make with the materials within reach, it should be added that no loam can be too good or too rich for the well-being of roses, and in selecting a site for a Rose bed or border a cultivator should endeavor to marry the three S's, namely, sun, shade and shelter, to air.

Feeding Roses. About one month after growth starts feeding should be resorted to, lightly at first and gradually increased in strength. Drainage from a horse or cow barn is undoubtedly the best stimulant that can be given to roses, applied in liquid form, as it is like that well-known remedy called Homocea. It touches the spot, and it has no bad after effects unless it is overdone. During the early part of the growing season when the young wood is tender and easily burned, one part liquid to four parts of water is strong enough, but from July onwards it can be applied almost full strength with impunity, providing that the constitution of the bushes would seem to be able to assimulate it. One great evil that must be guarded against is over-feeding. Bones though greatly advocated as a food for roses should never be used as a top dressing, because there is a certain amount of sediment even in their finest forms which is not soluble, and in the decomposition of which fermentation takes place producing the rose maggot, a grub which feeds on the feeding roots to be found just under the surface of the ground, and this grub takes from those roots the nutriment that should go into the tissue of the plant.

Propagation by Layers. By this mode the cultivator combines most of the more solid advantages of propagation by cuttings. The branch is cut half through at the base of a bud and cut up its centre for an inch or more in length; a small stone or a little sand is placed in the tongue to keep it open and the layer is thrust into the ground, the upper part of the branch being so placed that its half diameter with base bud is placed in a semi-vertical position in the ground, the branch being also pegged down firmly with a wire pin. With such manipulation of tissue and presentation of the root-forming portion of the plant to the soil, it must and does root freely, and without risk as, during the whole process, the branch is still supported with food through the unsevered portion of the stem. The size and length of layers is not material to their final rootings but to propagate roses from layers in quantities, the young wood of the current season is best. The choice of such will keep the layers small leaving only a few inches above ground. The wood must also be tolerably firm or there will be

much risk of rotting. Of course, where larger branches of two-year or older wood are used there will be no such risk. Any time during the growing season will answer for layering, but from the middle of July to the end of September will be found to be the best season to insure rapid rooting.

Roses from Seeds. Whether any special efforts have been made to obtain seeds or not, towards the end of most seasons a considerable number of hips will appear on the rose trees. These should be gathered as soon as ripe and laid out in the sun in a dry place, such as a greenhouse, to dry for a day or two, and then sown in pots or boxes, in pits or frames under glass, three-quarters of an inch deep in a good friable mixture. The seed bed of Roses is quite different from a bed of cabbage seeds. Instead of breaking ground all at once, fully half lie dormant the first year, some germinating at three months others taking six and so on. Seedling Roses also differ widely in their age of flowering. Some have been known to bloom in from nine to twelve months, others take from two to three years to come to flower. The early flowers of seedling Roses may be relied upon to reveal their color but scarcely any other quality. Neither size, form, nor substance is fixed for a year or two. It is most necessary to bear this in mind, otherwise many of the best seedlings may be sacrificed before their merits become known. The qualities of seedling Roses may be fixed sooner and be more fully and specially developed when budded or grafted on the briar than on their roots. As soon as large enough to handle, the seedlings should be lifted and the roots, when long, slightly cut back and then planted on some light, rich soil, potting or treading firmly. Keep clean, water when necessary and keep them growing. After the third or fourth year nearly all the seedlings will have proved themselves, and selection and rejection may proceed with confidence without fear of having discarded Rose treasures. All this may seem slow and tedious on paper, but, in reality, it is not so in practice, and assuredly, no means of propagating Roses equals the pleasure of raising them from seeds, which is so fruitful in pleasant excitement and sustained expectation. Hardly any two seedlings are alike in foliage, habit, prickles or wood, and a Rose of surprising excellence of a new color or strain may open at any moment and establish at the same time the fame of the raiser.

Training Roses, Standards.—It must be confessed that of late years there have been vigorous and sustained efforts made to level up all roses to one uniform standard, that of the best show blooms. In pursuit of this, not a few Roses of special interest has disappeared entirely from many gardens. At the present moment the Rose fever runs high in the direction of the Hybrid Perpetual and Hybrid Tea, and even the popular sorts may be moulded by pruning and training into other forms than those of the standard, half standard or dwarf rose bush rose. To show how to educe variety of form is the purport of this part of the lecture, and pruning may in some important senses be said to be the basis of training.

The highest examples of Rose training contain those two apparently opposite qualities, symmetry and diversity. Each rose may be a symmetrical type of a particular formed rose and yet the mere juxtaposition of two forms will yield a richer variety than if either had been more or less perfect of its kind. For example, a perfect dwarf and a perfect standard afford more contrast or diversity than if the dwarf were climbing up into standard stature. Similar contrasts may be drawn between pillar and weeping roses. These principles must be clearly borne in mind and persistently applied in practice in pruning roses into form. A superfluity of material is almost more difficult to deal with than a scarcity.

By looking well ahead this may generally be prevented by disbudding, a kind of prevention that saves a great deal of cutting and carving afterwards. For pyramid roses the number of shoots, for example, to form a pyramid is four. That is to say one central shoot and three side shoots. These may either be forced out of the base or callus or be stem brakes from near the base of the pyramid. In the formation of these the leading shoots should always have the preference from the first. That shoot though beheaded every year, should be cut back to the best and most prominent bud. In order to insure the presence of a fine bud at this point, it is a good practice to disbud the upper end of the shoot or even to shorten the leader considerably about the middle of September. This throws the strength of the plant into the buds left and insures that the upper ones, especially, that is those nearest to the beheading line, shall break vigorously the next year. In the practice of moulding Roses into good pyramids the difficulty seldom, or never, is about the strength of the leader, but the maintenance of an equality of strength among the semi-horizontal branches. Where this is the case these side branches may often be strengthened by the suppression of the leader, by stopping several times during the growing season. The second pruning consists in the shortening back of the leader and the three or more branches under it. Pyramid Roses, chiefly from their size and the numbers of roses they produce, seldom yield blooms of the highest and best type, but they make up in numbers what they lack in quality, while no object within the whole range of nature could prove more attractive than a single pyramid or a group of those roses of perfect form and smothered with bloom from top to bottom.

Sports. The anomalous nature of Rose sports induces one to believe that many are each year lost to the Rose loving public for the want of a little judicious treatment. It is a noteworthy fact that great percentage of sports emanate from well-known growers, and yet it is difficult to state why this is the case. In fact, to wholly account for it is impossible, unless it be that many growers of less experience are really equally favoured by fortune, or, to be more accurate, by nature's mysterious vagaries, and are at a loss to know how to perpetuate that common variation known as a sport. To any such growers it is my intention by these remarks to impart advice in such a simple way that the mere novice may permanently fix a sport should such appear among his or her collection, and thus earn for themselves the gratitude of all lovers of the queen of flowers. Closely observe the plants when in bloom whether they are growing outside in the open border or in greenhouse, for sports are apt to appear in either case, and when they are least expected. Of course slight variations in color will not be mistaken as sports. As an example, many varieties of pale yellow or cream shade will, if effectively shaded from the sun, appear almost a pure white. That would not be a sport by any manner of means; but, in the event of such decided variations appearing as a pure white variety sporting a distinct yellow or a crimson sport appearing on a rosy pink variety, there is then little doubt of the existence of a sport and attention is immediately demanded. The first thing to do is to cut away to the base any other existing shoots which may be growing on the same plant or bush, and when, as is often the case, the sport is seen in only one shoot of two or three upon the same footstalk, it is questionable, indeed, whether the cuttings from the base will be the same colour as the sport, so that it is imperative to encourage all possible growth upon the stem, though at the same time basal cuttings may be propagated for trial. Treatment similar to the foregoing will be found equally satisfactory in the event of a ground sport,

the only difference being that the bush should be lifted and taken inside. In either case the best thing to do at this stage is to propagate all growth as soon as it is of sufficient length, and as noted above, cherish all stem growth, while cuttings from the root may be tried and tagged as doubtful to be verified when in flower. A curious case was recorded some years ago by Mr. Henderson, the distinguished American nurseryman. One hundred Rose cuttings of the Tea Rose LaNankeen were put in all from the same plant. When the cuttings flowered, four very distinct varieties were developed. One had pure white flowers, others pure pink, a third was pure Nankeen, and a fourth were like the parent, white above and Nankeen below.

Rose Screen for Verandah.

Winter Protection of Roses.—Of all the operations in Rose culture the winter covering of roses is the most important in a country where the climate is so changeable and severe as it is in Canada. Standard or weeping roses are by far the easiest cared for, needing as they do, not more protection than the earth they are growing in. The only practical method that I know of for wintering this type of Rose is to loosen the roots on one side with a spade, cut a trench a foot or more deep according to the size of head the standard is carrying and bend the rose over gently, after which fill in completely covering the bush with soil to the ground level which can then have a foot or so of long litter laid on but not before severe frost sets in so that mice or their kindred cannot penetrate the soil. I winter such subjects as Marechal Niel and Devoniensis in this manner, and have always found it satisfactory. Dwarf Roses require a little more elaborate protection than the standards. There is no better way to protect dwarfs than to hoe up the clay that they are growing in to a depth of six inches and allow this to freeze hard. About the beginning of November is a good time to operate, and try, if possible, to choose a day when the soil is dry. About the middle of

December a mulch of long straw manure should be placed on top of this six inches of clay that was hilled up, and a sharp watch kept for mice, rats and other pests.

In the first place I will take the Hybrid Perpetual, the majority of which will come through any ordinary winter without any protection whatever without dying back more than half their length, which is more than enough to give all the cut back bloom required or possible. The most erratic Rose I know of this type to winter is Frau Karl Druschki, which will come through a severe winter all right, but does not winter well where conditions are excessively moist. The Hybrid Teas are just as hardy as the Perpetuals, but will, in almost all cases, kill back to where the clay has been drawn up but this is no drawback. To give you a case in point, last winter I was greatly troubled with rabbits eating the tops of the roses. Whole borders would disappear in a couple of nights. There was absolutely nothing to be seen above the clay mulch which was less than six inches deep. Now these roses got the same treatment as those that the rabbits did not touch, and they were not in any way harmed.

Tea Roses, being of a more tender disposition, are best covered completely over with clay conical fashion and well mulched over with long manure. Climbers can be burlaped where they are growing or else taken down and treated the same way as standards.

Roses for the Garden. While Rose growers have given most of their attention in recent years to the getting of new varieties of Hybrid Teas—although the hardy climbing sorts, especially during the last ten years, have come in for their share of development and popularity—with the great number of uses to which Roses may now be put successfully, and the ever increasing number of varieties to choose from, it becomes more and more necessary to make one's selection according to those qualities which make a rose specially desirable for this or for that purpose. For decorative purposes tastes differ so very much that it is almost impossible to suit everyone. Therefore, when making a commencement it is important that only colors pleasing to the eyes of those for whom they are grown should be chosen. Some prefer the pink, orange, yellow and dark crimson shades, and this combination certainly gets a wide selection of varieties as well as a pleasing variety in form. Such shades are always useful during the day and in artificial light are very effective. White and pink are soft and restful to the eye and there are many varieties in the colors of these. To obtain the best results these facts must not be lost sight of. Another point to remember is the habit of the plants for this work. Many of the best are extremely dwarf, so there should be little difficulty in securing plants and varieties ranging to a height to suit everyone. In making a selection see that the list comprises those in which the color, form and habit of each kind is that best suited to the individual. One great point in favor of the decorative type of rose is its ease of culture. The merest novice, provided he will take ordinary care, may produce a batch of plants each of which should develop a profuse display of the most delightful blooms for all forms of decoration. It is in their free display that these plants are best appreciated. Only in a few instances, where the buds are somewhat crowded, is it necessary to disbud at all. At one time varieties of the China Teas predominated, but all this is now changed. At the present time there are a few hundred varieties of really handsome form of the Hybrid Teas which belong to this class and these are so varied both in color and form that it is quite an easy matter to satisfy the tastes and fancies of the most fastidious. Numerous, too, are the flowers of varying tints, these in many instances appealing to those who fail to be satis-

fied with the self-colored varieties. Some good varieties belonging to this class are Ed. Meyer, coppery pink, Crissie McKellar, ochrey madder, changing to orange pink with age, Dorothy Page Roberts, apricot yellow, Ecar, late, brilliant crimson, Madam Ravary, orange yellow, Elizabeth Barnes, salmon rose, General McArthur, velvety scarlet, Gustave Regis, nankeen yellow, (this is a variety requiring moderate pruning.) Francois deBreuil, the finest crimson tea, H. Armitage Moore, silvery rose, Mrs. E. T. Hill, coral red and white, Mrs. Harold Brocklebank, buff color, Mrs. P. H. Coats, milk white. One great advantage of this type of Rose is that one may cut and come again without seeming in any way to impair the display, so bountiful is the supply. This fact must be regarded as an important one as, while one values the blooms for their use as a decorative subject, the beauty of the plants for brightening the garden could not be suffered to be interfered with, if by cutting the blooms from time to time this undesirable effect were produced. Another point in favor of the decorative or garden Rose is that they make their display when most other occupants of the bed and borders are long past their best. It is at such times that their display can be fully appreciated, and by their use the whole of the surroundings present quite a gay appearance. Where with an experience with a few degrees of frost the dahlias and other equally tender subjects are cut down, the queen of flowers goes on, and, as a consequence, the display is often carried on well into November. In the neighborhood of large towns and their suburbs too, the Rose appears to revel, and I know of no other subject capable of resisting the trying atmosphere of such areas and blooming freely under the circumstances, succeeding so well under the conditions just referred to. It will be quickly appreciated how valuable the Rose is for the country garden where the purity of the air keeps the blooms clean, intensifies their color and also tends to keep the bushes in a healthy and vigorous condition.

Roses for Exhibition. It is an essential of successful competition that a thoroughly judicious selection should be made of the varieties to be cultivated. For exhibition purposes several considerations have to be kept in view. In the making of this selection it is not enough merely to include a variety because it happens to be seen in exceptional form on the show board of some noted and experienced cultivator or because we read in a trade catalogue a glowing description, which in many cases, is but a repetition in all good faith of that sent over by the raiser from the Old Country or America. Again it does not follow that the award of a certificate by the National Rose Society of London, England, must prove that the variety thus distinguished is fit for, or ever will be seen on an exhibition table. The most reliable, because the most practical guide for an exhibitor in making his selections of show varieties is after all, the results disclosed by an audit of the varieties actually exhibited in the leading stands at the rose shows during the season. Such an audit can be made by any one for themselves. Of course, there are new varieties to be reckoned with, and these are now so numerous that the question of the selection becomes one of increasing difficulties. The safest plan is to see these novelties for oneself before selecting, and do not be in too great a hurry to select blooms for an exhibition. Go over your collection several times and examine carefully the blooms. Remember that style and refinement tell with judges as well as mere size. However, all other things being equal, size, undoubtedly is of very great importance. Size means depth as well as diameter. Cut the stem with a sharp knife and at the same time make two slits crosswise on the stem. By so doing the bloom is able to take up more water and so keep fresher.

Staging Rose Blooms on Stands. There are now so many cups and tubes on the market which admirably serve the purpose that it is unnecessary for me to particularize. All stands should have five inch centres, because it is impossible to stage large blooms on stands, which are spaced less, without overlapping the blooms. After mossing the stands set up the rose blooms, the tips of the petals in the front row just clearing the board. A badly set up stand may lose the competitor the prize, where all other conditions are equal. Care should be taken that the colors in classes calling for collections should be so intermingled as to produce a bright and tasteful effect. As harmony of color adds points to a show board let the blooms be as even as possible. One huge bloom may do more harm by its destroying evenness of the stand than it may gain points by its individual merits, especially if such merit is tainted by coarseness. Name your blooms correctly. Be cool and do things deliberately, and above all, do not show in more classes than you can properly fill and stage with effect. It is much better to gain one good prize than to just miss half a dozen. Lastly, accept the decision of the judges absolutely and cheerfully, too, if you can, for at a time when victory goes by a single point, you must be content to wait your turn for the prize list and not be discouraged by deferred success. Depend upon it, if you persist in your efforts you will at last achieve the prize for which you have been striving.

Some of the very best exhibition varieties both in the Hybrid Tea and Tea scented classes are:—

Mad. Abel Chatenay.
Ethel Malcolm.
Gustave Trunnerwald.
Geo. C. Wand.
Mrs. Edwin J. Holland.
Lyons Rose.
Catherine Mernet.
Lady Alice Stanley.
La France.
Mrs. W. J. Grant.
Mad. Melaine Soupert.
Pharisaer.

And in conclusion let me impress upon those who are starting in to play the game the importance of carrying out the various details of culture in their allotted seasons, that the ultimate result may be useful and encouraging. Commence with stock purchased from some reputable grower, and do not start with varieties that would be difficult even for a practical cultivator to manage until he got to know their vagaries and the remedy. This is a fruitful source of disappointment to many people who discard Roses altogether as being too difficult for them to grow. I am bold enough to hope that the day is not so very far distant when, instead of planting spireas, berberis, privet and other flowering shrubs as hedges, the people of the Province of Ontario will be planting roses in their stead. It has been said to me that by casting roses broadcast in this manner, people would pick them who were passing by; but as I have always maintained there is no one who can pick roses faster than you can grow them. Another point in favor of substituting roses for the above-mentioned shrubs is that in many parts of the Province are to be found the finest of Rose soils in their natural state, which require nothing but a little enriching, and I hope to see the day when Toronto will have the largest Rose Exhibition on the North American continent, and at the same time require Massey Hall to stage it.

After the singing of the National Anthem the most successful Convention ever held in the history of the Ontario Horticultural Association was brought to a close.

ACTUAL RECEIPTS AND EXPENDITURE OF HORTICULTURAL SOCIETIES IN 1913.

Societies.	Members' fees.	Legislative grant.	Municipal grants and donations.	Gate receipts at exhibitions.	Total actual receipts.	For exhibitions.	For seeds, bulbs and plants and Civic Improvement.	Lectures and periodicals.	Officers' salaries.	Total actual expenditure.
	$	$	$	$	$	$	$	$	$	$
Amherstburg	80	151	60	.....	422	.....	499	.....	.....	499
Barrie	164	289	131	38	797	195	268	.....	25	605
Belleville	76	120	50	.....	250	.....	135	25	25	249
Berlin	185	425	150	139	1,002	452	147	103	100	1,003
Bowmanville	102	85	.....	.....	187	127	.....	50	.....	187
Brampton	200	175	.....	.....	373	.....	258	100	.....	373
Brantford	202	147	100	.....	449	*200	195	43	60	597
Caledonia	72	60	.....	.....	146	.....	143	.....	.....	164
Cardinal	69	61	.....	10	154	10	145	.....	.....	171
Chesterville	57	67	.....	.....	124	*5	45	22	15	106
Clifford	122	234	10	160	722	310	.....	.....	30	701
Clinton	159	122	25	.....	306	*5	243	.....	.....	317
Cobourg	112	106	.....	.....	218	.....	20	52	.....	223
Dundalk	77	75	.....	.....	153	.....	96	.....	.....	140
Durham	65	97	7	.....	213	.....	119	12	30	200
Elmira	89	97	39	9	341	62	193	46	10	359
Fergus	60	69	.....	20	153	76	12	2	15	142
Fort William	109	116	15	.....	256	91	109	10	.....	249
Galt	216	211	201	19	649	268	58	33	75	580
Goderich	112	136	45	.....	293	.....	185	55	20	300
Grimsby	97	64	.....	.....	186	.....	161	61	.....	234
Guelph	216	168	.....	.....	415	171	250	130	.....	769
Haileybury	50	131	64	71	347	235	.....	.....	25	324
Hamilton	539	545	50	30	1,164	.....	455	347	75	1,191
Hanover	105	100	.....	.....	277	.....	185	46	10	247
Hespeler	84	73	.....	.....	163	.....	106	37	10	169
High Park	132	75	50	.....	265	96	*90	.....	.....	345
Kincardine	83	110	.....	.....	241	10	118	40	25	218
Kingston	235	284	.....	113	667	322	.....	.....	50	666
Kingsville	78	86	16	.....	274	.....	227	.....	10	297
Lindsay	74	63	.....	.....	137	.....	48	41	25	132
London	447	524	.....	.....	1,012	10	358	371	111	1,073
Markdale	69	58	25	.....	172	31	81	37	.....	186
Midland	93	134	.....	.....	227	46	158	5	.....	230
Millbrook	75	55	.....	.....	130	.....	66	38	.....	134
Mitchell	116	100	.....	.....	219	.....	137	57	15	225
Napanee	71	78	.....	.....	156	.....	115	4	25	162
Oakville	84	105	.....	.....	189	.....	122	33	20	195
Orangeville	142	89	4	28	397	65	274	5	.....	421
Oshawa	115	112	10	.....	237	.....	202	.....	20	241
Ottawa	528	548	10	.....	1,104	159	397	.....	150	1,199
Owen Sound	174	106	8	.....	313	94	127	23	15	326
Paisley	52	103	.....	29	219	152	.....	.....	20	236
Paris	107	75	126	26	360	72	69	60	.....	268
Perth	258	180	30	.....	490	35	182	133	27	472
Peterborough	351	292	.....	.....	666	*34	311	199	50	698
Picton	95	92	.....	.....	187	.....	159	15	20	217
Port Dover	82	133	108	.....	413	134	119	47	25	359
Port Hope	151	128	.....	.....	279	.....	161	76	10	256
St. Catharines	730	800	726	712	3,278	885	786	15	200	3,224
St. Thomas	708	284	75	.....	1,895	*123	495	389	232	1,425
Sandwich	100	103	75	.....	278	.....	115	.....	25	176
Sault Ste. Marie	56	125	50	.....	264	72	115	.....	25	286
Seaforth	61	103	25	.....	238	.....	154	39	25	242
Simcoe	60	70	.....	.....	144	.....	57	33	35	150
Smith's Falls	136	221	206	12	596	47	372	98	25	597
Stirling	58	79	.....	.....	141	16	47	12	.....	159
Stratford	185	127	100	.....	415	.....	246	54	35	368
Strathroy	154	173	.....	.....	327	52	185	15	25	344
Thornbury	77	91	24	.....	192	3	88	39	20	183

* For lawns and gardens.

ACTUAL RECEIPTS AND EXPENDITURE OF HORTICULTURAL SOCIETIES IN 1913.—Continued.

Societies.	Members' fees.	Legislative grant.	Municipal grants and donations.	Gate receipts at exhibitions.	Total actual receipts.	For exhibitions.	For seeds, bulbs and plants and Civic Improvement.	Lectures and periodicals.	Officers' salaries,	Total actual expenditure.
	$	$	$	$	$	$	$	$	$	$
Tillsonburg	100	115	69	16	309	85	99	19	25	308
Toronto	870	725	988	.....	2,847	635	223	10	100	2,804
Walkerton	85	106	.....	17	236	16	73	43	22	198
Walkerville	313	281	150	.....	784	.....	600	33	50	760
Waterloo	120	158	25	.....	306	.....	185	59	40	318
Weston	137	107	98	.....	356	55	181	.....	22	312
Whitby	79	67	.....	4	154	.....	66	41	.....	156
Winchester	80	104	90	.....	277	.....	222	.....	.....	292
Windsor	234	420	400	.....	1,086	.....	968	65	75	1,354
Woodstock	81	221	75	19	400	19	103	6	35	390
Totals	11,455	11,934	4,510	1,472	32,640	4,475	12,928	3,328	2,159	32,701

STATEMENT OF MEMBERSHIP AND LEGISLATIVE GRANTS FOR 1912-3-4.

Societies.	Expenditure in 1912, on which grant for 1913 is based.	Membership.		Legislative grants.		
		1912	1913	1912	1913	1914
	$ c.			$	$	$
Amherstburg	370 41	104	80	133	151	157
Barrie	668 19	234	231	247	289	236
Belleville	258 06	113	76	123	120	90
Berlin	982 68	343	217	266	425	325
Bowmanville	168 59	89	102	77	85	83
Brampton	337 45	195	200	174	175	166
Brantford	357 79	105	202	131	147	224
Caledonia	133 44	53	72	78	60	67
Cardinal	127 20	60	69	60	61	68
Chesterville	126 72	77	57	75	67	46
Clifford	593 74	148	170	196	234	240
Clinton	255 06	118	159	92	122	137
Cobourg	13 70	110	112	96	106	96
Dundalk (organized in 1913)	.....	.....	77	.....	75	62
Durham	240 36	66	65	89	97	74
Elmira	204 35	94	97	89	97	126
Fergus	146 85	65	60	55	69	57
Fort William	230 84	125	125	75	116	108
Galt	476 96	178	216	228	211	225
Goderich	342 24	88	112	110	136	116
Grimsby	113 83	80	93	94	64	93
Guelph	353 26	163	216	146	168	277
Haileybury	356 70	63	86	141	131	101
Hamilton	1,235 41	458	539	673	545	495
Hanover	232 10	80	105	75	100	100
Hespeler	154 00	70	84	57	73	73
High Park (organized in 1913)	.....	.....	132	.....	75	134
Kincardine	241 41	99	83	98	110	84
Kingston	657 28	228	235	290	284	254
Kingsville	182 56	82	78	75	86	104
Lindsay	127 08	65	74	66	63	59
London	1,298 38	353	447	462	524	433

STATEMENT OF MEMBERSHIP AND LEGISLATIVE GRANTS FOR 1912-3-4.Continued.

Societies.	Expenditure in 1912, on which grant for 1913 is based.	Membership.		Legislative grants.		
		1912	1913	1912	1913	1914
	$ c.			$	$	$
Markdale	115 87	61	69	61	58	72
Midland	281 09	132	93	115	134	92
Millbrook	110 04	58	75	53	55	61
Mitchell	194 10	111	116	83	100	98
Napanee	178 08	66	71	70	78	66
Oakville	232 22	93	84	129	105	79
Orangeville	153 23	114	142	75	89	158
Oshawa	206 55	131	115	99	112	102
Ottawa	1,308 74	407	528	800	548	494
Owen Sound	234 94	94	196	38	106	152
Paisley	234 75	86	93	113	103	93
Paris (organized in 1913)	.....	.....	107	.....	75	106
Perth	383 99	172	258	160	180	212
Peterborough	563 17	323	361	198	292	305
Picton	185 73	92	95	110	92	89
Port Dover	355 38	68	82	121	133	121
Port Hope	228 84	155	151	120	128	118
St. Catharines	3,176 67	604	730	800	800	800
St. Thomas	521 34	337	708	157	284	614
Sandwich	217 08	101	100	75	103	80
Sault Ste. Marie	269 10	117	73	94	125	99
Seaforth	257 79	69	61	87	103	84
Simcoe	152 78	62	60	68	70	.....
Smith's Falls	565 59	134	136	277	221	202
Stirling	194 95	56	58	77	79	61
Stratford	279 17	112	185	113	127	159
Strathroy	388 56	148	154	135	173	142
Thornbury	179 92	98	77	89	91	73
Tillsonburg	285 73	76	100	109	115	114
Toronto	2,342 99	651	546	800	725	500
Vankleek Hill	133 93	50	.....	73	59	.....
Walkerton	227 25	101	85	93	106	80
Walkerville	604 30	263	313	249	281	305
Waterloo	333 11	152	120	150	158	123
Weston	221 31	109	137	328	107	128
Whitby	144 54	64	79	70	67	67
Winchester	233 34	90	80	98	104	103
Windsor	866 24	420	234	479	420	433
Woodstock	530 97	164	81	231	221	129
Totals	28,284 02	10,247	11,422	11,568	11,993	11,624

PRESIDENTS AND SECRETARIES OF HORTICULTURAL SOCIETIES.

Societies.	Presidents.	Secretaries.	Address.
Amherstburg	O. Teeter, M.D.	Rev. F. O. Nichol	Amherstburg.
Barrie	S. J. Fisher	T. T. Young	Barrie.
Belleville	F. D. Diamond	W. J. Diamond	Belleville.
Berlin	H. W. Brown	Wm. Downing	Berlin.
Bowmanville	Wm. Trewin	Jas. Deyman	Bowmanville.
Brampton	T. Thauburn	J. E. Cooper	Brampton.
Brantford	F. Chalcraft	R. W. Brooks	Brantford.
Caledonia	J. M. Forbes	H. J. Gould	Caledonia.
Cardinal	J. Carr	E. E. Gilbert	Cardinal.
Carleton Place	Wm. Findlay	Robt. McDiarmid	Carleton Place.
Chesterville	O. D. Casselman	C. W. Casselman	Chesterville.

PRESIDENTS AND SECRETARIES OF HORTICULTURAL SOCIETIES.—Continued.

Societies.	Presidents.	Secretaries.	Address.
Clifford	R. M. Hazelwood	Jno. R. Scott	Clifford.
Clinton	M. D. McTaggart	Thos. Cottle	Clinton.
Cobourg	E. W. Hayden, M.D.	A. B. Roberts	Cobourg.
Dryden	H. R. Day	Alex. Kennedy	Dryden.
Dundalk	F Martin	W. T. Rundle	Dundalk.
Durham	E. A. Hay	Chris. Firth	Durham.
Elmira	R. W. Faulds, M.D.	J. H. Bowman	Elmira.
Fergus	D. Mitchell	J. C. Templin	Fergus.
Fort William	Geo. H. Coo	C. LeCocq	Fort William.
Galt	W. D. Sheldon	R. S. Hood	Galt.
Goderich	W. F. Gallow	W. Lane	Goderich.
Grimsby	Rev. T. Ratcliffe	W. B. Calder	Grimsby.
Guelph	Wm. Hunt	H. E. S. Asbury	Guelph.
Haileybury	P. A. Cobbold	A. B. Iliffe	Haileybury.
Hamilton	J. W. Jones	Mrs. A. Potts	Hamilton.
Hanover	D. Luesing	D. Luesing	Hanover.
Hespeler	H. Mattheis	E H. Birkin	Hespeler.
High Park	Albert Chamberlain	A. E. Whatmough	491 Keele St., Toronto.
Kincardine	Rev. J. C. Pomeroy	M. J. MacPherson	Kincardine.
Kingston	Lt.-Col. R. E. Kent	A. W. McLean	Kingston.
Kingsville	C. J. Green	Geo. Pearse	Kingsville.
Lindsay	Robt. Chambers	Jas. Keith	Lindsay.
London	Wm. Moore	A. M. Hunt	London.
Markdale	R. W. Ennis	J. C. Coke	Markdale.
Midland	Robt. Irwin	R. G. Nesbitt	Midland.
Millbrook	A. T. Armstrong	W. S. Given	Millbrook.
Mitchell	W. M. Edwards	A. J. Blowes	Mitchell.
Napanee	Mrs. J. W. Robinson	W. S. Herrington	Napanee.
Newcastle	Dr. McIntosh	Mrs. Coldwell	Newcastle.
Oakville	W. S. Savage	L. V. Cote	Oakville.
Orangeville	T. H. Henry, M.D.	H. F. Tuck	Orangeville.
Oshawa	A. F. Hinds	L. M. Germond	Oshawa.
Ottawa	W. G. Black	J. F. Watson	Ottawa.
Owen Sound	Thos. Findlay	Miss J. S. Maughan	Owen Sound.
Paisley	J. Milne	R. B. Grant	Paisley.
Paris	W. N. Bell	A. G. H. McCormick	Paris.
Perth	Hy. Taylor	N. G. Dickson	Perth.
Peterborough	H. L. Beal	C. H. Williamson	Peterborough.
Picton	W. J. Carter	Walter T. Ross	Picton.
Port Dover	Jno. Aldredge	Jno. Aldredge	Port Dover.
Port Hope	H. Hume	W. T. Greenaway	Port Hope.
St. Catharines	W. B. Burgoyne	Miss L. A. Radcliff	St. Catharines.
St. Thomas	Dr. F. E. Bennett	J. C. Spencer	St. Thomas.
Sandwich	J. J. McCarthy	W. E. Gignac	Sandwich.
Sault Ste. Marie	E. P. Molony	W. B. Culbert	Sault Ste. Marie.
Seaforth	A. F. Cluff	H. Hartry	Seaforth.
Smith's Falls	W. T. Ferguson	H. H. Hunter	Smith's Falls.
Stirling	Mrs. T. H. Matthews	A. D. McIntosh	Stirling.
Stratford	Dr. J. A. Bothwell	Alex. C. Barclay	Stratford.
Strathroy	J R. Smith	R. F. Richardson	Strathroy.
Streetsville	C. E. Darker	H. O. Burns	Streetsville.
Thornbury	H. Pedwell	G. Wright	Clarksburg.
Tillsonburg	V. A. Sinclair	W. W. Livingstone	Tillsonburg.
Toronto	D. A. Dunlop	C. St. George Freer	59 Chelsea Ave., Toronto.
Walkerton	M. G. Dippel	Jas. Tolton	Walkerton.
Walkerville	J. Pitcher	W. H. Smith	Walkerville.
Waterloo	J. H. Engel, V.S.	J. Uffelmann	Waterloo.
Westboro	T. B. Cole	W. J. Kerr	Woodroofe.
Weston	Jno. Dickin	T. A. Thomson	Weston.
Whitby	E. E. Starr	Miss M. V. Powell	Whitby.
Winchester	J. F. Ault	Miss I. Dickson	Winchester.
Windsor	J. T. J. Reynolds	H. J. McKay	Windsor.
Woodstock	T. A. Newton	I. Whitehead	Woodstock.

FORTY-FIFTH ANNUAL REPORT

OF THE

Fruit Growers' Association

OF

Ontario

1913

(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE, TORONTO.)

PRINTED BY ORDER OF
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1914

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29-37 Richmond Street West,
TORONTO.

To His Honour SIR JOHN MORISON GIBSON, Knight Commander of the Most Distinguished Order of St. Michael and St. George, a Colonel in the Militia of Canada, etc., etc., etc.,

Lieutenant-Governor of the Province of Ontario.

MAY IT PLEASE YOUR HONOUR:

I have the honour to present the Forty-fifth Annual Report of the Fruit Growers' Association of Ontario.

Respectfully submitted,

JAMES S. DUFF,

Minister of Agriculture.

DEPARTMENT OF AGRICULTURE,

TORONTO, 1914.

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Fruit Growers' Association of Ontario

OFFICERS FOR 1914.

President.....Robt. Thompson, St. Catharines.
Vice-President.....Elmer Lick, Oshawa.
Secretary-Treasurer.....P. W. Hodgetts, Parliament Buildings, Toronto.
Executive.....Officers, and C. W. Gurney, F. S. Wallbridge.

Directors:

Div. 1. R. B. Whyte, Ottawa.
2. C. W. Beaven, Prescott.
3. F. S. Wallbridge, Belleville.
4. Elmer Lick, Oshawa.
5. W. J. Bragg, Bowmanville.
6. H. G. Foster, Burlington.
7. R. H. Dewar, Fruitland.

Div. 8. R. Thompson, St. Catharines.
9. Geo. Schuyler, Simcoe.
10. Dr. A. J. Grant, Thedford.
11. J. Mallough, Dungannon.
12. C. W. Gurney, Paris.
13. W. J. Saunders, East Linton.

Ontario Agricultural College: Prof. J. W. Crow.
Auditor: D. F. Cashman, Parliament Buildings, Toronto.

Representatives to Fair Boards and Conventions.

Canadian National: Robt. Thompson, St. Catharines.
London: D. Johnson, Forest; C. W. Gurney, Paris.
Ottawa: R. B. Whyte, Ottawa; Harold Jones, Maitland.
Ontario Horticultural Exhibition: Robt. Thompson, St. Catharines; Elmer Lick, Oshawa; H. G. Foster, Burlington; P. W. Hodgetts, Toronto.

Committees:

Transportation: A. Onslow, Niagara; Geo. French, Sarnia; Elmer Lick, Oshawa; W. J. Bragg, Bowmanville; Robt. Thompson, St. Catharines; G. E. McIntosh, Forest.

Co-operation: Elmer Lick, Oshawa; C. W. Gurney, Paris; Prof. J. W. Crow, Guelph; Dr. A. J. Grant, Thedford.

New Fruits: W. T. Macoun, Ottawa; Prof. J. W. Crow, Guelph; F. S. Reeves, Vineland Station.

Historical: A. W. Peart, Burlington; W. T. Macoun, Ottawa.

TREASURER'S REPORT, 1913

Receipts.

Balance on hand, Dec. 31, 1912.	$1,674 43
Members' fees	308 75
Show:	
Entry fees	141 25
Fruit sold	315 50
Grant	1,700 00
Interest	22 85
	$4,162 78

Expenditure.

Annual Meeting	$248 34
Committees	50 20
Periodicals	677 90
Printing	105 70
Show	1,309 56
Grants	400 00
Miscellaneous	1,362 87
Balance on hand	8 21
	$4,162 78

DETAILS OF EXPENDITURE.

Annual Meeting.

Canadian Countryman (1912)	$5 60
Angus & Stonehouse, reporting (1912)	75 00
College Press, printing	51 15
Farm and Dairy, ad.	5 60
Weekly Fruit Grower, ad.	11 20
Canadian Farm, ad.	10 08
Weekly Sun, ad.	11 20
Canadian Countryman, ad.	8 40
Wm. Briggs, printing	5 00
Lecturers expenses:	
R. R. Graham	6 41
S. C. Parker	58 70
Total	$248 34

Committees.

Directors' Expenses:	
W. H. Stainton	$4 40
D. Johnson	10 00
W. J. Saunders	10 20
C. W. Beaven	14 65
D. Johnson	2 95
F. M. Lewis	8 00
Total	$50 20

Periodicals.

Horticultural Pub. Co., *Horticulturist* $40.80, $332.30, $232.00, $72.80; Total	$677 90

Printing.

Standard Printing Co., circulars.	$60 60
College Press, stationery	9 35
College Press, post cards	35 75
Total	$105 70

Show.

1912—

Express, C.N.R.	$7 10	
Freight	28 84	
Manning Cold Storage.	18 38	
Canadian Express	125 32	
		$179 64

1913—

E. T. Reed, freight, etc.	$151 92	
Dominion Express	35	
S. McElroy	16 20	
F. McLeod, express	7 80	
Canadian Express	96 81	
Manning Cold Storage.	88 66	
M. Elard	6 54	
Hendrie & Co	54 89	
		423 17

Fruit Sold—

1912, Mrs. U. Young	$2 00	
G. H. Martyn	3 50	
R. Schuyler	15 00	
1913, Total amount	492 25	
		512 75

Miscellaneous—

1912, St. Catharines, supplies	$9 00	
E. T. Reed, services	150 00	
1913, D. Pike, supplies.	35 00	
		194 00
Total for Show		$1,309 56

Grants.

1912, Northumberland & Durham	$50 00
Norfolk, Huron & Essex	150 00
1913, St. Lawrence Valley	50 00
Northumberland & Durham	50 00
Oakville & Peel	100 00
	$400 00

Miscellaneous.

G. E. McIntosh	$1,075 52
P. W. Hodgetts	10 00
Miss Boehler	24 00
Exchange	3 35
Miss Lester	150 00
Dominion Guarantee	10 00
Miss Walkinshaw	90 00
Total	$1,362 87

Audited this 12th day of January, 1913.
(Signed) D. F. Cashman, *Auditor.*

(Signed) W. H. Dempsey, *President.*
P. W. Hodgetts, *Treasurer.*

Fruit Growers' Association of Ontario

ANNUAL MEETING.

The fifty-fourth annual meeting of the Fruit Growers' Association of Ontario was held in the Dairy Amphitheatre, Exhibition Park, Toronto, on November 19th, 20th and 21st, 1913.

At ten o'clock on Wednesday morning, November 19th, 1913, President W. H. Dempsey, of Trenton, called the meeting to order.

PRESIDENT'S ADDRESS.

W. H. Dempsey, Trenton.

The season just closing brings with it several lessons, and some hints of caution which must be heeded, if we would keep our industry up to its present high standard. Last winter our storages were full of surplus apples from the abundant 1912 crop, and our trees were full of blossom buds for a bumper 1913 crop. Things did look bad for the apple business, but nature interferred, and the slate is clean for another heavy crop next year.

The crop in storage sold this spring at prices far under the cost of production in many cases. This low price was the result of over-production, and while not a full crop, by any means, it was heavy enough to give a slump in prices, which we hope may not soon be repeated.

All our selling organizations seem to be helpless in the face of an over crop, and the prices and profits so long believed in fail.

This year, with a crop almost a failure, apples have kept within reason; hence we begin to feel that the apple business may soon be over done, and caution seems necessary on the part of our fellow investors and ourselves, who already know the business.

How it fares with the other lines, let us see? The peach growers last year had good crops and good prices; this year they have had better crops and only part of the planting bearing, but prices have fallen often below that of apples, so that here we feel it time to sound the note of warning to those about to plunge deeper into the game.

In the smaller fruits, cherries have not been any higher price than usual. Berries have been higher because of the unusually dry weather which dried up part of the crop.

Over much of Ontario the apples have been affected with insect and fungus. Perhaps it was because of the scant crop that spraying was neglected, or other reasons might have increased the injury. At any rate our Dominion fruit inspectors have had a very busy season, and much trouble from keeping outside buyers from being beaten by careless or unscrupulous packers. The importance of their work cannot be over-estimated; for at present it would indeed be disastrous if our packers were to lose their reliability, and lose for us the markets we have fought for so hard.

It is well, therefore, for our Association to give every encouragement to the better grading of all kinds of Fruit, so that our packages may be reliable.

As a Fruit Growers' Association our main work is self-protection by:

1. Encouraging the use of fruit.
2. Educating fellow growers to the greatest efficiency in production.
3. Raising standards of package and quality of contents.
4. Protecting fellow investors against over-production.

We, as an Association, have been boosting the use of fruit by our Horticultural Show. The great exhibits of fancy fruit, and the visitors coming and going, all tend to stimulate the demand for first-class fruit in good, reasonable packages.

We are told that a few years ago Toronto took apples in barrels only from Ontario. Then a few boxes from the Western States came in; after this a competition in boxed Ontario apples at our Show, and now this year Toronto will eat 100,000 boxes of Ontario apples.

Thus it is in all our fruits, the more we advertise, the greater the demand.

In education of fellow growers, the Government is doing much by its fruit institutes and demonstrations in box-packing. Reports of work done at the O. A. C. and the spraying demonstrations by District Representatives have done much to hold up the quality of fruit in the several counties, and to keep down the heavy annual loss by insects and fungus diseases.

The counties, through their District Representatives and local fruit organizations, are helping, too, in the advertising of fruit.

At our present Show one of these county's exhibits is made popular by their distributing pamphlets on the use of the apple, and so we hope through our Association to reach out in coming years, and by the competition started in the counties, to increase the use of fruit.

Our competition in box packages is doing much for Ontario apples. Already we find Ontario packers going into competition with western packers. At the National Land and Apple Show, held this fall in Winnipeg, Ontario box packers carried off the best prize.

Again, it is to the credit of our Association and its interest in packages and packing that the Ontario Fruit Branch took the President's Cup at the Apple Shippers' Convention at Cleveland.

As to the matter of protecting ourselves and fellow-investors in marketing, we have aided in marketing schemes, and the great co-operation scheme is now on foot and well at work. There are committees and agents representing us striving for concessions from the railways and transportation companies to protect our good stuff once it is well packed and on the cars. Reports from these will come later in our meetings.

Lastly, we owe to ourselves and fellow-investors, and planters, some note of warning against over-production. Since this Society was organized we have heard questions on this point. At present we find that it is coming to where a reasonable answer may be easily found.

In a report at Ottawa last winter, the Representatives from British Columbia, in asking for tariff on apples, sounded a warning from the far west.

Now, with the last two crops of apples, one not a full crop—that is, not all that the orchards could produce—and the last what is generally called a failure, which did not put prices out of sight, we conclude that there is immediate danger of over-production in apples.

From peach crops of 1912 and 1913, and prices, with the fact that this year there was not so full a crop as might be reasonably expected, it appears that it is time to say: "go carefully."

MR. THOMPSON, (St. Catharines): When you refer to the danger of overproduction you refer also to the fact that Toronto will take 100,000 boxes of apples this year. That is certainly a very large increase over some years ago, for they took very few, in comparison to that, only a few years ago. But that emphasizes the fact that all over the Province—not only in regard to apples, but in regard to all fruits—the people are not getting one-quarter enough fruit, nor one-quarter what they would take if they could get it.

THE PRESIDENT: I gave it as my impression, and I might say that the figures from British Columbia will bear me out. For instance, in their report last winter to Ottawa, before the Agricultural Committee, the increase in the Okanagan Valley alone was shown to be in 1909, 76 cars; in 1910, 176 cars: and in 1911 an increase of 800 cars.

A MEMBER: Was that apples or all kinds of fruits?

THE PRESIDENT: It was principally apples. That is from the Okanagan Valley; Okanagan Valley shipments. Then he has made a very creditable report on the increase in the States lying directly south of British Columbia: Oregon, Washington, Montana, Idaho. This increase runs up somewhere to about 100,000 cars as the expected crop for 1915. From the States I have mentioned, that shows an increase over last year of 100 per cent. Then take peaches alone. This is the first year we have sold very many peaches in our small towns and villages, and these products were selling in the town of Trenton at 10 cents a basket, and that certainly is far below the cost.

MR. THOMPSON: Were apples a dollar a basket in Trenton?

THE PRESIDENT: Yes, in the early part of the season apples were selling for a dollar a basket, but with the present methods and knowledge that we have of making our orchards produce apples the crops are bound to be larger every year, and to hold a good average crop every year. There are orchards in my section—I do not know how it is in others—where the growers apparently know how to handle the matter, and they manage to get good fair crops year after year, and this knowledge is fortunately gradually extending to others, and it certainly looks as though there was an excessive production coming.

MR. ARMSTRONG: In regard to peaches I might say that we have done considerable advertising—I am speaking of Niagara Township and that district—and buyers we never heard of before have been making enquiries for carload rates from all points. It is just possible that considerable business will result to our credit.

TRANSPORTATION REPORT.

G. E. McINTOSH, FOREST.

This subject of transportation is at any time a very delicate one on which to prepare a paper, because of the accuracy with which all statements must be made, but I want to assure you that at no time have I been timid in presenting a paper of this nature to you. This morning, shortly after my arrival in the city, I was handed a newspaper clipping containing a report of Sir William Van Horne's address to the Canadian Club, of this city, about a week ago. Now, Sir William, speaking of the agitation that has been created or is being created by the different Boards of Trade and other organizations, etc., says:

"I do not know the reason for these prolonged attacks, but they have created a dangerous situation. It is this precarious situation of the American railways that is the great cloud overshadowing business conditions in North America to-day.

"We have seen in recent years such things as the New York Central Railway being compelled because of the false statement of an employee who swore he could not see a certain red light—a condition known by the railway officials to be otherwise—to spend fifty or sixty millions in completely changing their New York terminals. We have seen the New York, New Haven & Hartford hounded by ignorant public opinion to the very verge of bankruptcy.

"Now all these things are catching, and sometimes—in fact too frequently—Canada has shown a tendency to follow suit, though up to date there has been very little of this illiberal tendency. I will only cite one instance, and that is the legislation which ten years ago wiped out the small independent local elevator system, with the result that Western farmers are getting less for their wheat than ever before.

"But I want to plead for more liberal, intelligent and friendly consideration of the railway interests of Canada, and against any attempt on the part of blatherskites to put through ignorant legislation such as has been passed in the United States."

Now, Sir, I want to say this with all due respect to Sir William Van Horne and the railway interests that he represents, that he has evidently overlooked the fact that the agriculturists of the Dominion of Canada are second only as revenue producers for the railways of this country. Because of the agitation that has been created or is being created by the Ontario Fruit Growers' Association, by the different Boards of Trade of the cities of the Dominion, by amalgamated Boards of Trade all over the country for the increased taxation on railway property; for all this agitation to better the commercial conditions of this country we are classified by Sir William Van Horne as "blatherskites." Now, Mr. President, I want to say that in my efforts on behalf of the Ontario Fruit Growers' Association I am quite willing to be stigmatized by Sir William Van Horne as a "blatherskite."

The remarks I am about to address to you I have put in the form of a paper on Transportation. It is a report on what the Transportation Committee has been doing, and it contains some recommendations as to what they probably should do in the future:

It is something over a year since I was honored by your Association with this appointment of Transportation Agent of your Association, with instructions to look into the conditions governing the transportation of fruit, and the facilities afforded by the different carriers. I may say the work has become deeply interesting, and personally I am satisfied it is high time the education being advanced by the various rural fruit growers' associations, and also by the mother association, be not directed only towards production, but to transportation and marketing—two of the greatest constituents in the success of this great industry which you represent here to-day.

The fruit grower must prepare his fruit for the consuming public in accordance with certain legislation, under a penalty, and no matter how great the quantity, or how good the quality, the success of the industry is then largely dependent upon the condition in which the common carriers of this province deliver it to the various markets.

I want to point out that the products of agriculture in this Dominion are second only in quantity of railway tonnage to the products of the mines, and that fruit and vegetables, of which the railways carried over a million tons last year, are third highest in the list of agricultural products contributing to the railways' receipts. In other words, the agriculturists are the second best customers the railways of the Dominion of Canada have, and are therefore entitled to at least equal advantages with the shippers of other commodities.

The problem of rates—and we believe they are all the traffic will bear—is not the essential point, nor is it the most important of the many complaints or grievances of the fruit growers and shippers to-day. It is, briefly speaking, lack of railway equipment; inefficient terminal facilities; a service in transit that assures no certainty of reaching a market in proper time; delays in supplying cars; rough handling; lack of shelters; pilfering; neglect in icing cars or attending heaters, according to season, and certain privileges that are accorded shippers of other commodities, but not for fruit. These are a few of the more important matters, attributable to some of which are the serious losses several of you have experienced, and to which the Province as a whole is suffering because our Ontario fruit is not reaching the markets, especially the western market, in a proper condition to meet the competition it is subjected to there.

The task, therefore, confronting your Transportation Committee is one of great importance; one that is somewhat discouraging because of the apparent slow progress to be made. I beg to submit herewith as briefly as possible a synopsis of what has been attempted and accomplished the past year, both on appeal to the Railway Commission and by conference with railway representatives.

Completing Part Carloads In Transit: Application was made to the Railway Commission to compel the railway companies under their jurisdiction to allow part carloads of fruit charged at carload rates and weight from original point of shipment to final destination to be stopped in transit for completion of load at an additional charge of $3.00 per car for each stop.

In support of this request it was pointed out that British Columbia fruit shippers had the advantage of an inward rate, covering a sixty-mile radius, of 10 cents per 100 pounds, for assorting carloads, and that shippers of horses, cattle, hogs, sheep, live poultry, grain, canned goods, lumber and poles were permitted to ship part carloads at carload rate and weight from point of shipment to destination and stop for completion of load for $3.

The ruling of the Board upon this request was given on March 6th, 1913, and was as follows:

"That the application for the stop-over privilege be and is hereby refused." "It is established by various decisions of this Board," says Commissioner McLean, "as well as by decisions of the Interstate Commerce Commission, that the transit practice is a privilege, not a right, and the Board is without power to direct that this privilege be given by the railway."

Section 317 of the Canadian Railway Act reads: "No company shall make or give any undue or unreasonable preference or advantage to or in favor of any

particular person or company, or any particular description of traffic, in any respect whatever." Yet the Board of Railway Commissioners allow such to exist, and have ruled that they have not the power to compel a railway company to extend such privilege, preference, or advantage, whichever you may call it, to the fruit shippers, who are paying a rate double that of live stock, two and half times that paid for lumber, three times the rate paid for grain and four times greater than that on poles.

Minimum Inward Rates: From December, 1904, when tariffs were first filed with the Railway Commission, down to March 28th, 1911, both the G. T. R. and C. P. R. carried apples to concentration points for storage, inspection or completion of carloads and re-shipment at a reduction of one-third from the local tariff rates. The combination of the in and out rates not to be less than the through rate from the first shipping point to the final destination, plus 2 cents per 100 pounds; and if to the concentration point a joint route had to be used, the reduction applied only to that portion of the earnings of the company that received the second haul, or re-shipment from that point. On March 29th, 1911, the arrangement was modified by withdrawing the completion of carloads concession. and restricting the storage and inspection privilege to carloads.

The Commission was asked jointly by the Simcoe Fruit Growers and your Transportation Committee to order the re-establishment of these concessions above referred to, in the event of not granting the stop-over privilege.

The Board's ruling on this request, dated March 6th, 1913, was as follows:

"That the railway companies subject to the jurisdiction of the Board re-establish the arrangement formerly in effect, whereby apples were carried to concentration points for storage, inspection, or for completion of carloads and reshipment, subject to certain conditions, at a reduction of one-third from the local tariff rate to the concentration points, so as to become effective within thirty days from the date of this order, the railways having not satisfactorily justified the abrogation of the arrangement which has been shown to have been in existence in Ontario for a number of years."

On July 5th, 1913, I was informed by Mr. Cartwright, Secretary of the Commission, that the railway companies had applied for permission to refer this ruling to the Supreme Court, on the grounds that the Board had not jurisdiction to issue such an order. Their request was granted, but I am given to understand that the order issued by the Board on March 6th, as above read, remains in effect until either quashed or withdrawn, and the rebate concession is therefore available for those requiring it.

Slatted Floors: As several shippers were annually paying out large sums of money for providing slat floors for refrigerator cars or box cars when refrigerators could not be supplied, to protect their shipments, the Commission was asked for a ruling compelling the railways to pay shippers for providing such.

This request was granted by an order. issued June 30th, 1913, number 19,570. reading as follows:

"It is ordered that where shippers furnish slats for the floors of refrigerator cars not equipped with permanent slatted or double floors, or for the floors of box cars tendered to and accepted by shippers in lieu of refrigerator cars, for the carriage of fresh fruits, railway companies subject to the jurisdiction of the Parliament of Canada shall allow the shipper $3.00 per car for the said slatting: the shipper to be permitted to deduct the said allowance from the freight charges payable by him upon the shipment in such car in which the said slatting has been furnished; the shipper's receipt for the amount so allowed to be given the Railway Company's agent at the forwarding station, and to be accepted by him as so much cash in the prepayment of the freight charges on such car."

This is $3 better than it was up to the time this order went into effect, but your Transportation Committee are not yet satisfied in this matter. Some shippers put in floors, and have done so this season, that cost considerably over $3, and weigh probably 1,000 pounds, but under the Canadian classification no reduction is allowed off the minimum carload weight for these floors, and consequently the shipper has to pay freight on same. We might take the case of a Sarnia shipper fitting a car as outlined, he gets no allowance from his freight minimum for putting in that floor. The shipper in Port Huron—only a mile away—fits a car, and under the official classification he is allowed 1,000 pounds for such fittings from the car minimum.

Reciprocal Demurrage: The Ontario Fruit Growers' Association, the Toronto and Montreal Boards of Trade, the Canadian Millers' Association, The Associated Boards of Trade of Ontario, The Ontario Coal Dealers' Association, and the International Harvester Company were heard in Ottawa, June the 16th and 17th, by the Railway Commission on the question of reciprocal or average demurrage.

It was my privilege to also represent your Transportation Committee at this hearing, to endeavor to show the great need of something being done to ensure a better service in the supplying of cars, a better mileage rate in transit, and a more prompt delivery at terminals for fruit shipments.

At present a shipper who allows his car to remain more than twenty-four hours of free time at terminals before unloading is fined $1 per day for every day beyond such free time. Last winter the Board raised this to $2 and $3 for the first and second day, for four months as an experiment, but the experiment did not bring about the results which the railways claimed would be forthcoming, viz., that cars would be released by consignees and could then be supplied promptly to the shippers. The fact then is apparent that the fault is really congestion at terminals, which can only be remedied by the railways in providing better terminal facilities.

Our request was for reciprocal demurrage, that is a system by which the railway as well as the shipper would be fined for delay in unloading, according as one or other was responsible. The same would apply in the ordering of cars. If cars were not supplied in forty-eight hours, the railways would pay the shipper demurrage for each day's delay thereafter, and if supplied and not loaded in proper time, then the shipper would pay the same rate. Delays in transit or in placing would or should be in the form of a penalty.

By the average demurrage system the charge on all cars held for loading or unloading by shipper or receiver would be computed on the basis of the average time or detention to all such cars released during each calendar month as follows:

1. A credit of one day allowed for each car released within twenty-four hours of free time, and a debit of one day charged for each twenty-four hours beyond the first forty-eight hours of free time.

2. At the end of the month the total number of days credited will be deducted from the total number of days debited, and $1 per day charged for the remainder.

In supporting the reciprocal plan, I believe its adoption would be a fair settlement of the question, whereas the average plan would discriminate against the small shipper in favour of the big one. Let the railway as well as the shipper be penalized, but we must be prepared and willing to accept any ruling whereby the service will be improved.

From returns furnished me by shippers who kept records of shipments as requested, last season, I was enabled to present to the Board accurate data showing losses sustained by shippers through delays in supplying refrigerator cars, etc. Out of forty shippers, requiring 1,186 refrigerator cars, twenty-six experienced delays of from four to thirty-eight days in getting them, and in some instances were compelled to use box cars. An instance may be given of one shipper, who ordered 8 refrigerators from the M. C. R. Company on October 24th.. He received 2 on November 28th—35 days; one on November 30th—37 days; 1 December 1st—38 days, and no more until December 13th. Another ordered six refrigerators from the P. M. Ry. Company on November 4th, and received the first car on December 10th. So on through the list such ridiculous delays were recorded.

Regarding delays in transit, the evidence submitted covered everything required by the fruit grower, from the nursery stock to the orchard product, including spray material, etc. On fruit shipments to the western market, Winnipeg shipments travelled as slow as two and three-quarter miles (2¾) per hour; Brandon from 4¾ to 10 miles per hour; Regina, 4¾, 5½, and 6 miles per hour, and several other points about as bad. Conditions at export points were also referred to instances being quoted where cars were held a full week and more during severe cold weather and were badly frosted. Fifty-seven shipments of nursery stock by one shipper to points in Ontario during the month of May was even acknowledged by the railway representatives to be a most shameful condition of affairs. Some of these required 17 days going 23 miles, 15 days going 28 miles, 22 days going 37 miles, 26 days going 72 miles, etc., throughout the whole fifty-seven shipments.

Similar reports to the above were submitted on the placing of carload shipments of fruit after arrival at destination.

In reply to Chairman Drayton's inquiry as to what rate of transit the fruit shipments should be given, my suggestion was ten miles per hour, and I am satisfied this is not an unreasonable request, considering the freight rate, and the volume of business we tender. For instance, the run between New Orleans, La., and Chicago, with fruit and vegetable shipments is made in 55 hours, a distance of 922 miles, or an average speed of 16 miles an hour, while the actual running speed would be greatly in excess of this. The schedule for banana trains between these points is 47 hours and 30 minutes, an average of 20 miles an hour. Fruit trains from Southern Illinois are run from Centralia, Ill., to Chicago, 252 miles, in ten hours and five minutes, about 25 miles an hour, and this service dates back as far as 1901. In the district comprising Delaware and the eastern shores of Maryland and Virginia, which ships probably 90 per cent. of its production north of Philadelphia, they have the accommodation of specially constructed cars for fruit, and a service almost on passenger schedule.

From Wilmington, N. C., to New York, fruit trains average better than 16 miles an hour. Florida, like other Southern States is provided with a special fast freight service for the transportation of fruits, trains making the run between Jacksonville and New York, including all delays, at a rate of over 17 miles per hour. So on all through the fruit-producing States we find similar service provided. From the Jacksonville, Palestine and Tyler districts in Texas, to New York, 1,523 miles in five days, and even to Montreal we find delivery of peaches and cantaloupes made for sixth morning market. Between Southern California and New York, 3,200 miles, an average speed of nearly 13 miles an hour is attained.

Now, if this long run between California and New York, a distance of 3,200 miles, can be made at the rate of 13 miles an hour, our suggestion for a ten-mile-

an-hour rate cannot be met with the kind of arguments we are given—that it is too high a rate to expect. Washington, Oregon, and Idaho, competitive States in Western Canada with our Ontario producers, also have a special schedule during the heavy movement, and in some instances fruit shipments are handled on passenger trains.

To the great fruit industry of this Province, then, the decision of the Railway Commission upon this problem means considerable, as it is a stepping stone to the more important requirement—that of better service in transit. We pay a high rate because of the perishable nature of our commodity, and deserve, therefore, the service for which we pay. The reports now coming from Ontario shippers are an improvement over last year's, but show a serious state of affairs yet. No Company obtaining its right of operation from the Government, which in reality is the people, should be allowed to so serve or humbug those who make their operation possible.

When the decision of the Board will be given, I cannot say. I was in hopes it would be in time to apply this season, but am advised, under date of October 13th, 1913, by Secretary Cartwright, that it will be some time yet before the question can be disposed of.

Heated Refrigerator Cars: By an order of the Railway Commission dated December 6th, 1912, the railways were compelled to furnish to any shipper, or combination of shippers, a heated refrigerator car or cars for the carriage of fruit or vegetables in less than carload quantities, the same to be loaded by the shipper, provided the total weight is not less than 12,000 pounds, or a less aggregate amount in freight charges than for 12,000 pounds distributed over the various shipments in the car, and a few other provisions in regard to the number of car openings, liability, etc. The service will probably be of some advantage to rural shippers, but particularly beneficial to wholesale dealers.

Shelters at Shipping Points: Complaints having been made that no shelter was provided for express shipments at St. Catharines and Forest, and for boat shipments at Niagara-on-the-Lake, these points were inspected, and the matter brought to the attention of the proper officials. Mr. Biggar, chief counsel of the G. T. R., advised the Commission that at Forest a siding and a covered shed would be provided for next season, while assurance was also given that the present unsatisfactory condition at St. Catharines would be remedied in the near future, as they expected to make extensive alterations there, and would include an express shelter in the proposed improvements.

In regard to a shelter at the dock at Niagara-on-the-Lake. Probably at no shipping point is a protection more needed. The Richelieu and Ontario lines have during the past season greatly improved the service, and the shippers appreciate Mr. Gildersleeve's work in this respect, but they require a shelter over a portion of the dock to ensure protection from rain, and avoid losses occasioned thereby, as was experienced early the past season. The storehouse owned by the Company will not serve the purpose, because of the extra handling necessary and a slow process of reaching the boat. Mr. Gildersleeve has replied to our request in terms suggesting that the shippers may expect nothing being done in the matter.

It is compulsory for railway and express companies to provide these shelters or protection for shipments, and the late Chairman of the Railway Commission went so far as to suggest that where such were not provided it be reported promptly to him. Certain navigation companies, however, which are not owned, chartered,

used, maintained or worked by a railway company subject to the jurisdiction of the Railway Board for the carrying of traffic, are not under the Board's control, and unfortunately, the Richelieu and Ontario Company is one of these. This is another instance of need of legislation to extend the jurisdiction of the Railway Commission.

Man in Charge of Heated Cars: A year ago the Transportation Committee conferred with representatives of the different railway companies on several matters of complaint. One request was that shippers be permitted to send a man free with heated cars to attend heaters, and he be returned at 1 cent per mile. The final decision on this request came from Mr. Ransom, Chairman of the Canadian Freight Association, stating this was already in effect. However, we find it is in effect on all rail shipments only for the shippers from the Maritime Provinces. Since September 22nd, however, the railways will carry a man from the head of the lakes to points west and return free when in charge of heaters placed in box cars when refrigerators cannot be supplied.

At the present time I have a request before the C. N. R., C. P. R., and G. T. R. companies that the privilege of sending an attendant free with all rail shipments west of Port Arthur, and return him free, be given. This is not an unreasonable request, when you consider the fact that the Oregon-Washington Railroad and Navigation Company, Camas Prairie Railroad Company, Southern Pacific Company, and Yakima Valley Transportation Company in Oregon, Washington and Idaho, allow this privilege to points in Western Canada. In tariff number 140-A of the Oregon-Washington Company, page 14, item 75, this clause appears: "Rates named herein will also apply on shipments loaded in box or refrigerator cars equipped with stoves to prevent damage by frost or freezing, and will include free transportation both ways for party in charge of one or more cars in one shipment."

This is surely a clear case of discrimination against the Ontario shipper. It means that Nova Scotia shippers and your competitors from the three states named have an important advantage that you have not got. I feel confident the railway companies will rectify this, but if not, the Commission should be asked to do so. With this privilege there would be less risk on the carriers and certainly less anxiety for the shippers, with a certain assurance that our apples would reach the market in proper condition.

Carload Express Rates: In 1910 the Association asked for a reduction of express rates on carloads to the west. The Board saw fit at that time to reduce the rate covering Winnipeg and main line points to $2. To-day the bulk of the business is on the branch lines, which demand the old rate of $2.40 and $2.65.

Referring to this condition, Messrs. E. D. Smith & Son write as follows: "The great problem before the fruit trade at the present time is that of distribution, and by the plan which we have followed for several years trying to work up business in all the small towns on the branch lines we were able to get in touch with the consuming public in the quickest and most economical manner, but the rates are prohibitive."

This matter was looked into to some extent, and facts presented to Mr. Burr, of the Dominion Express Company, with reference to the fact that the rate to St. John, or to Halifax, was $1.25 and about the same mileage as to Winnipeg. Mr. Burr's reply to our request was as follows:—

"I do not know on what basis the shippers assume that the express rates on fruit in carloads to the North-West are too high. No doubt a lower rate would benefit the grower in that it might give him a greater profit on his product. I have understood, however, that it was a matter of competition, and I beg to point out that a decrease in the rates from Ontario points would undoubtedly be followed by a decrease in rates from other producing centres, and it seems to me that nobody would be any better off, excepting perhaps the middleman or retailer.

"When this matter was before the Railway Commission two or three years ago, we were required to put the Niagara grower on the same basis as the British Columbia grower, and the $2 rate from the Niagara district to Winnipeg was thus established. If the rate from the Niagara district to Winnipeg were lowered, the rate from British Columbia shipping points to Winnipeg would have to be lowered to the same basis. We do not consider the rate from either of these districts remunerative. They were put in to assist the development of fruit raising districts. They have answered that purpose completely, I think. A very large business has been established. The traffic has moved for several years under the rates in effect, and it is assumed that it has been profitable to the shippers.

"As to the Manitoba rate compared with the rate to Maritime Provinces, I beg to point out that the special rate to main line points in Manitoba and the special rate to Maratime Provinces are about fifty per cent. of the general special rates to the same districts. It is a well known fact that the transportation rates in the East are relatively lower than those in the West, and lower than the rates from the East to the West. For instance, the first-class freight rate from Hamilton to Kirkella is $1.72, while the first-class freight rate from Hamilton to Sydney, N.S., is 76 cents.

"I should add that any reduction in the rates from Ontario and British Columbia would be followed by similar concessions to the shippers in the States of Washington, Oregon and Idaho, who have tried very hard for several years to get lower rates to Canadian points. This Company, has, however, opposed the movement strenuously, believing that any such concessions would not be in the interest of the Canadian growers. The present rates are fairly well balanced as between the shipping points and the markets. A change in one would undoubtedly upset the whole situation, and there is no telling where it would lead to, but my view of it is that the American shipper would profit by it to the disadvantage of the Canadian grower.

"As suggested before, we do not think that the present rates are remunerative—the traffic would not be attractive to us at lower rates. We believe that we have dealt liberally with the shippers and it is not clear to me on what grounds we can be expected to make any further concessions."

It therefore is evident that this will be one of the important matters to be dealt with by the Transportation Committee, and one that will probably have to go to the Railway Commission for final settlement.

One outstanding fact in regard to express rates is this: While the Dominion Express Company has running rights over practically two-thirds of the railway mileage in Canada, some of our most extensive fruit districts are served only by the Canadian Express Company, and these shippers are compelled to pay rates greatly in excess of those from competitive points.

To outline how this affects the shipper from a non-competitive point. Take, for instance, shipping points in the Niagara Peninsula, west to Berlin, north to Streetsville, the local commodity express rate on fruit to Winnipeg is $2.65 per 100 pounds. From the Leamington and Essex district and from Sarnia and other points where two express companies operate, the rate is $2.90. Exclusive points, however, have been paying enormously high rates, such as from Forest, where only the Canadian Express Company operates, 23 miles less haul than from Sarnia, the rate was $4.20. This was brought to the attention of the Express Company officials, and they issued a tariff June 7th. 1913, allowing these exclusive points the $2.65 and $2.90 rate, plus 30 cents in the former and 35 cents per 100 pounds in the latter instance.

There are many complaints of high express rates to points within the province, but this matter has not yet been presented to the Express Companies.

Refrigerator Car Requirements: An effort was made to get an estimate of refrigerator cars that the fruit shippers would require this fall at the different shipping points, with a view of supplying the different railway car distributors with the requirements for each division, between certain dates. I regret to say that only thirty-three shippers responded to our request for information. These were, however, compiled and sent to the proper officials from whom a reply was received stating such information was of great assistance in arranging for the supply. I have reason to believe the greater portion of these thirty-three shippers, requiring 692 cars between October 24th and November 10th, received much better service than they would otherwise have received. With this information the railways could better estimate their requirements, and they have promised to co-operate with us in an effort to improve the conditions of last year. The shippers were not mindful of their own interests in this matter, but I hope when occasion again demands they will be prompt and be more unanimous in their response.

Less than Carload Lots Freight Shipment: Another matter of a monetary benefit to many fruit shippers in some districts was an arrangement made with railway representatives, whereby L.C.L. shipments were carried on freight rates instead of by express on the same train. For instance, in the Lambton district, the shippers at Forest and Thedford were shipping to Stratford at an express rate of 50 cents. per 100 pounds, and London 60 cents per 100 pounds on a mixed train. It was my privilege to take this up with the divisional agent at Stratford, and he consented to placing a car for 6,000 pounds minimum at a rate of 22 cents and 24 cents respectively. The service was used to good advantage because the shipper or shippers doing the handling received the same despatch, and saved 28 cents and 26 cents per 100 pounds respectively on their shipments.

Where similar conditions exist if shippers would report to the Committee or myself they would receive attention. I am sorry there is not a larger attendance here this morning, as I would like to have impressed these facts on every member of the Association.

These are some of the matters which have received the attention of the Transportation Committee and myself the past year. The concessions granted have been made possible by your assistance in furnishing records, and just here may I impress the necessity of keeping the records asked for from time to time by circular. The power under which your Committee can work successfully is in your hands; we must have these facts well substantiated. The companies must have these facts and they must have them well substantiated. It only remains then for you to make this keeping of records one of the first things attended to on each shipment. I want to assure you the railway companies are beginning now to realize that the Ontario Fruit Growers' Association is a body alive to their rights and can substantiate a request with something behind it. Evidence which you shippers can produce will demand a hearing at any time, and I sincerely hope if this work continues your committee will have the co-operation of every shipper in the Province.

There are several matters requiring constant attention, and to some of these I wish to direct your attention for a few minutes.

Rough Handling: This is one of the most shameful injustices with which the shippers have to contend, and this statement applies both to freight and express handling. No excuse that the grower may give will exonerate him from the penalties of the Act under the terms of which he must prepare his fruit for the

market, but that same fruit may be made unmarketable before it leaves the shipping point, and no recourse for the shipper except by the route of filing a claim. I contend this is not a just condition of affairs. In freight handling, I believe the greatest complaint is with lake and rail shipments, where the shipper is utterly helpless, and also with export shipments. I venture to say if many of our growers could see some of their apples after placed on a boat at, say, Montreal, they would not believe the apples were their pack. I have seen cars opened there, sufficient taken out to allow the trucks to enter the car; the bottom barrels then pulled out, and handlers run for safety while the four or five tiers came tumbling down. It was my privilege to have one of these barrels opened, it belonged to S. G. Dudley, Colborne, and in the middle of that barrel apples freshly bursted in halves were taken out. Barrels piled two high on their ends in the shed are often loaded on trucks by the top barrel being allowed to drop its height on the cement floor. I have followed these barrels to the hole of the boat and they were given another shameful jar when the sling reached the bottom, barrels belonging to Clapp-Littlejohn, Dutton, and Brant Fruit Association being broken in this way. This did not occur only in one shed, but in several.

Express in L.C.L. shipments are subjected to almost equally as rough handling. It is both annoying and discouraging to spend a day following the fruit special from St. Catharines to Stoney Creek. This is supposed to be a special express service, and by that is meant express cars running on express schedule and charging the shippers express rates. It was my privilege to follow this train from Vineland to Winona in August. On this occasion, I must say, the handling was quite satisfactory, and the train was composed of cars quite suitable for the fast run. But it so happened that Mr. Allen, of the Canadian Express Company, and a G.T.R. train official were also along that day. On September 12th I again stopped off at Grimsby. The fruit special on this date might be classified anywhere from a circus train to a way-freight. It comprised:

Two G.T. box cars, 15891 and 17894.
Two Can. Express cars, 406 and 517.
Two G.T. refrigerator cars, 46536 and 46719.
Two Arms Horse cars, 3054 and 3049.

In horse car No. 3049 the baskets were piled ten high and on top of this baskets were thrown in like sticks of wood from a buz saw, upside down, on their end, and in every shape, almost to the roof. There were stamped W. H. Carnovsky, Kingston. In car No. 3054 the conditions were not much better, some addressed to Cherney Grocery Company, Windsor. I called upon this firm on September 27th, and was informed that their fruit shipments were arriving almost daily in a badly damaged condition. Handling of express at other points was very bad, but at such points as are not served by the fruit special, where the agent is in charge of the express, there is some chance of having this work properly done because he is responsible, and must provide sufficient help to have it done properly. If shippers will note this, and insist on proper service, or report the agent to your Transportation Committee, it can be remedied. Or report to myself while I am in charge of that work.

Owner's Risk: There has been some misunderstanding among the shippers as to the railway companies' rights to issue bills of lading with the notation: "Owner's Risk Freezing." In some instances shippers have refused to allow this to be done.

The classification, however, provides that apples are carried only at "Owner's Risk Freezing," and Rule 7 says: "No special mention to that effect shall be necessary on the bill of lading." This condition covers only such risks as are necessarily incidental to transportation, and does not relieve the railway from liabilility from loss, damage, or delay which may result from any negligence or omission of the company or its agents.

In order to be brief, I want to state that they have the right to put "Owner's Risk" on the bill of lading, but the fact that that "Owner's Risk" is on there does not in any way relieve the railway company from responsibility for any damage that may arise through carelessness in shipping in any way, shape, or form. There is apparently quite a misunderstanding on that point. If you refuse to put "Owner's Risk" on the bill of lading then you are shipping under Section (B) of Rule 7, which says:—

"Should the shipper decline to ship at 'Owner's Risk,' as specified and defined in this classification, any articles shown as to be so carried, the articles will be carried subject to the terms and conditions of the bill of lading approved by the Board of Railway Commissioners for Canada, in which case 25 per cent. over and above the rates which would be payable if such articles were shipped 'Owner's Risk' will be charged."

A Member: Can you put anything on the bill of lading that would relieve them from liability?

Mr. McIntosh: Oh, no; it would not relieve them at all from any negligence, etc. Here is the clause:—

"No special notation to that effect shall be necessary on the bill of lading. This condition covers only such risks as are necessarily incidental to transportation, and does not relieve the railway from liability for loss, damage or delay which may result from any negligence or omission of the company or its agents."

Refrigerator Cars: I think it was at the Ontario Agricultural College, Guelph, in January, before the short course students, I made a statement in reference to the number of refrigerator cars in the service of the G.T.R. in Canada being less in 1912 than in 1908. It appeared in the press, and was disputed by different divisional freight agents of that company. Again, before the Agricultural Committee, in Ottawa, Mr. Johnson presented the following figures, relative to the G.T.R. refrigerator cars:..

In service for the year ending June 30:

1908	955 cars.
1909	948 cars.
1910	946 cars.
1911	944 cars.
1912	941 cars.

This time exception was taken to the statement by Mr. Charles Dewey, freight agent at Winnipeg, who through the *Winnipeg Telegram* said: "The statement of Mr. Daniel Johnson that the refrigerator cars in the service of the G.T.R. Company are fewer this year than last year is not true."

The figures referred to are taken from copies of railway statistics, issued by authority of the Minister of Railways and Canals, and are compiled from sworn returns supplied by the different railways. To be even more accurate I applied to

the Deputy Minister of Railways and Canals, Mr. A. W. Campbell, and his advice is as follows: "In railway statistics for 1912 the Grand Trunk Railway is reported as having 941 refrigerator cars and the Canada Atlantic 24. These figures agree precisely with those in the sworn return made to this Department by Mr. W. H. Ardley, General Auditor of the Company, for the year ending June 30th, 1912."

My contention was that with a falling off in refrigerator equipment and a largely increasing tonnage of fruit being hauled, this Company at least was not providing an efficient service for fruit handling. I present these facts here to-day to show you that neither your former President nor myself had made statements unfounded, as Mr. Dewey would lead the public to believe.

I want to speak plainly to you growers and shippers on the importance of keeping records. You have all read no doubt the newspaper report given out by Mr. E. M. Trowern, secretary of the Dominion Board of the Retail Merchants' Association, regarding the inferior condition of the apple pack on the western market. From personal observation at Port Arthur and Fort William, I must concur with Mr. Trowern to some extent, but let me tell you the fault is not all that of the grower or shipper. but is about equally shared with the carrying companies. They, however, unless you do as many other associations such as the millers, coal dealers, etc., do—keep a very accurate account of their shipments—will make the public believe that you and you alone are responsible. There is no end to this work confronting your Transportation Committee, but they must have your help. Reports for last season's crop were received from 78 shippers, a little better than one-half of those to whom circulars and appeals were repeatedly sent. I hope there will be a better percentage this year. I cannot impress this upon you too strongly for your benefit, and also because it is of vital importance to the industry that responsibility for poor shipments should be placed in the right quarter.

Mr. Trowern intimates that there is danger of the Ontario fruit grower being crowded off the western market. It really looks like it. and to my mind the greatest reason for this will be traced to the railway companies; first because of that blanket rate now in effect from the Western States, covering nearly all the Canadian West markets, and second, because of the enormous raise in rates for the Ontario shipper to reach that market, after leaving Winnipeg. For instance:—

North Yakima, Wash., to Calgary.	75 cents.
North Yakima, Wash., to Winnipeg.	75 cents.
Lewiston, Idaho, to Calgary.	75 cents.
Lewiston, Idaho, to Medicine Hat.	75 cents.
Lewiston, Idaho, to Winnipeg.	75 cents.
Hood River, Oregon, to Edmonton.	90 cents.
Hood River, Oregon, to Calgary.	80 cents.
Hood River, Oregon, to Winnipeg.	80 cents.

Compare for a moment this uniformity of rates with that being paid by the Ontario shippers. Take for instance the following:—

Oshawa to Winnipeg.	$0.53
Oshawa to Medicine Hat.	.96
Oshawa to Calgary.	1.04
Oshawa to Edmonton.	1.04

I have said through the press, in reply to Mr. Lanigan, of the C.P.R., who took exception through the *Winnipeg Telegram* to statements made by Mr. Johnson before the Agricultural Committee of Ottawa, that this is an unfair discrimination. There is no extra charge on these Washington, Oregon, and Idaho

shippers for that haul from Calgary to Winnipeg, on a through rate, but there is a charge of 51 cents per 100 pounds for the same haul, only in opposite directions, for the Ontario shippers.

Mr. Lanigan contends the Ontario shipper has an advantage over the shippers of the U.S. or B.C. from a mileage basis, and gave these figures as proof of that assertion:—

From	To	Miles	Rate per 100 pounds
St. Catharines	Winnipeg	1383	53 cents
Yakima, Wash.	Winnipeg	1502	75 cents
Kelowna, B. C.	Winnipeg	1228	75 cents
St. Catharines	Regina	1740	83 cents
Wenatchee	Winnipeg	1325	75 cents
Yakima	Regina	1030	75 cents
Kelowna, B. C.	Calgary	890	58 cents

But I have also some rates here, selected on a mileage basis:—

	Miles	Rate
Yakima to Fort William	1809	85 cents
Oshawa, Ont. to Regina	1632	87 cents
Hood River to Port Arthur	1906	90 cents
Brampton to Medicine Hat	1827	96 cents
Yakima to Montreal	3134	1.00
St. Catharines to Calgary	2223	1.04
Hood River to Montreal	3254	1.00
Forest, Ont., to Lethbridge	2178	1.00

It is, therefore, obvious that the freight rates, even on a mileage basis, give no advantage whatever to the Ontario producer. But suppose they did, it would not be fair in this case to draw a comparison solely from that standpoint. Consideration must be given to conditions that help to make these rates. Take, for instance, the haul from Yakima or from Okanagan to Calgary; compare the costly nature of construction of that piece of railway with that from Toronto to Winnipeg, consider also the heavy expense over that mountain haul of keeping up auxiliary power; the enormous expenditure on snow sheds and other preventitives from slides, and finally the fact that the 180 per cent. type engine which would haul, say, 411 tons over that roadbed from Okanagan to Calgary, at a rate of 58 cents per 100 pounds, would haul nearly 2,000 tons, or about five times the load from Toronto to Winnipeg at 53 cents per 100 pounds. Thus handling the Ontario shipments from say St. Catharines to Winnipeg or from any other Ontario point at a greater profit than the American or B.C. shipments to Calgary.

In other words, a train crew can handle 30 cars about as well as fifteen on long-haul business; and expenses for fuel, etc., do not increase proportionately to the load. The effect of this is that an increase in the paying train load very materially decreases the cost of operation per ton, thereby enabling the railroads to profitably transport the Ontario fruit at a much lower rate than that of the Western States or British Columbia, which is handled in much smaller tonnage over a more costly and a high grade roadbed.

No complaint is made by Ontario shippers of the freight rates from Ontario points to Winnnipeg, nor do they think the British Columbia or even the American shipper is charged an excessive rate to Calgary, because conditions demand that rate. Taking the above points, Winnipeg and Calgary, into consideration, the rates are probably fair to both, with certainly no advantage or preference to the Ontario shipper.

With Winnipeg, then, as an entrance to this western market for the Ontario shipper, and Calgary as an entrance point for the Western States, or British Columbia shipper, all on a fair rate basis, we find the territory lying between these points as has been pointed out, or to give further instances as follows:—

The Okanagan shipper pays on a through rate 60 cents to Calgary and 75 cents to Winnipeg. The Washington, Idaho, or Oregon shipper 75 cents to both, while the Ontario shipper pays 53 cents to Winnipeg and $1.04 to Calgary.

The C.P.R. makes a charge of 8 cents per hundredweight for the haul of 657 miles between Medicine Hat and Winnipeg to the British Columbia shipper, and for the same haul charges the Ontario shipper 48 cents per 100 pounds.

From Spence's bridge to Medicine Hat a rate is given of 79 cents and to Winnipeg 85 cents or 657 miles for 6 cents per hundredweight, but the Ontario shipper pays 48 cents for the same 657 miles.

I do not think it is the wish of any Ontario shipper to seek an advantage, nor yet a preference over other shippers. The competition from the United States in Western Canada, is, however, becoming very strong. The total quantity of apples marketed in the three western provinces for the season of 1912 was approximately 495,000 barrels, of which Ontario supplied 238,000; the United States, 164,000; British Columbia, 75,000, and Nova Scotia, 18,000 barrels. By this you will notice the American and British Columbia shipments together exceed that of Ontario.

We are not, as has been said, endeavoring to raise a howl against the railroads, we cannot afford to do that; but we must insist on having what we believe are our rights.

In this report it would be impossible to go into any very great detail on the question of rates. It is a huge and complicated problem, requiring a thorough investigation, especially in regard to rates west of Winnipeg, and this with a view of determining a just and equitable basis upon which the tariffs should be framed. High railway officials tell us that rate schedules are a deep and intricate mystery, not to be understood or rashly meddled with by anyone save themselves. I quite agree with them that the tariffs are all they say, and the instances I have referred to might be said to be a few of these great mysteries in rate making that are helping to crowd the eastern grower off the western market.

Recommendations.

In conclusion, I beg to submit for consideration the following recommendations:—

(1) That an effort be made to have all navigation companies handling freight, and operating upon Canadian waterways, placed under the jurisdiction of the Railway Commission. (I think this is one of the most important matters before your Transportation Committee. I think if the fruit shippers had the power to bring these handlers, who are now outside the jurisdiction of the Board of Rail-

way Commissioners, under the authority of that Board, or one competent to adjudicate in the same manner, you would get your fruit into Liverpool markets in far better shape than is being done at present.)

(2) That power be given the Railway Commission to adjudicate claims against railway or express companies not settled in 60 days.

(3) That the Railway Commission be given jurisdiction in the matter of fixing a penalty for rough handling and pilfering of freight and express shipments.

(4) That fruit inspectors be also cargo inspectors.

(5) That the express minimum be reduced from 20,000 pounds to 15,000 pounds.

(6) That, if necessary, the Railway Commission be asked to compel the railway companies to allow free transportation both ways for man sent in charge of heated cars.

(7) That the railway companies be asked to provide a special fruit train service from central points in Ontario to Winnipeg, during the shipping seasons.

A MEMBER: Referring to what Mr. McIntosh says with regard to having the Railway Act amended in order to make it more effective and of more value to the Fruit Growers, I believe that would help greatly.

MR. P. W. HODGETTS (Secretary-Treasurer): I have a recommendation here from Mr. D. Johnson, Forest, Ont., and he says:—

"Mr. McIntosh and myself have been talking over putting forth an effort to have the Railway Act amended so as to throw greater responsibility on the railways while carrying fruit; also to have the powers of the Railway Commission enlarged to deal with claims against the railways not settled within 30 days after presented to them."

MR. LICK: I think that the recommendations Mr. McIntosh has made at the end of his paper on Transportation, should be sent to the Resolution Committee, perhaps for some additions and slight alterations, and to be then sent on to the proper authorities;

Secondly, that as Mr. McIntosh has been doing the work of the Transportation Committee for the past year it would be just as well to leave it in his hands unless we have a strong Committee to work with him; and,

Thirdly, that anything we can do to make transportation matters or facilities more favourable to us ought to be done, and that we should be united in seeing that all that can be is done.

The following resolutions were then moved and adopted:

"That the recommendations Mr. McIntosh has made to the Transportation Committee be sent to the Resolution Committee for what additions and alterations are necessary, to be then sent to the proper authorities.

"That as Mr. McIntosh has been doing the work of the Transportation Committee for the past year the work be left in his hands."

"That this meeting unite in supporting the Transportation Committee in their efforts to improve the transportation facilities for the Fruit Growers of Ontario."

INSECTS ATTACKING THE PEACH.

L. Caesar, Provincial Entomologist, O.A.C., Guelph.

The following are the chief insects attacking the peach in Ontario: Peach-Borer, Lesser Peach-Borer, Plum Curculio, Fruit-tree Bark-Beetle or Shot-Hole Borer, and San José Scale. There are a number of minor insects sometimes found but doing very little damage, viz.: Green Peach Aphis, Black Peach Aphis, Peach-Twig-Borer, Tarnished Plant Bug, and Red Spider.

The insect that I have been asked to pay special attention to in this address is the Peach Borer.

Fig. 1.—Adult moths of Peach Borer: The upper right hand one and the lowest one are females, the other two are males. (After Slingerland.)

Peach Borer.—(*Sanninoidea exitiosa* Say.).

This Borer when full grown is a rather stout, cream-coloured or yellowish larva, about an inch long. It nearly always attacks the trees just at or slightly beneath the ground. Frequently it is necessary to remove the earth around the trunk to be sure whether one of the insects is present or not, but usually its presence can be suspected by seeing the dirty gum mass that exudes from the part where it feeds. The injury is caused by the borer or borers (there may be several to a tree), working just beneath the bark and girdling or partly girdling the tree. A tree thus affected becomes sickly in appearance somewhat as if attacked by Yellows, and may die the same season or be killed by the succeeding winter. Young and old trees are alike attacked. Fortunately in a great many orchards

this insect is very scarce, but this is not true of all districts, and in some it is far the most destructive and difficult enemy the peach grower has to contend with. It often seems to be worst in districts where there are comparatively few peach orchards.

Kinds of Plants Attacked. In addition to the peach it attacks to some extent the plum, cherry and apricot, but the peach is its favorite.

To intelligently understand the methods of combating the pest it is necessary to give briefly its life history.

Life History. The winter is passed as a partly grown, usually about half grown, larva, beneath the bark. In spring with the return of warmth this larva begins to feed ravenously and increases rapidly in size. By the end of June it is usually full grown and then soon leaves its tunnel or burrow to form a brown cocoon on the outside of the bark or on the ground close to the trunk. About the end of July the pupa changes into a pretty little steel-blue moth, about one inch long, looking to most people more like a wasp than a moth. The female has around her abdomen a broad orange band that makes her conspicuous. Moths may be found from about August 1st to the end of September. They soon lay their eggs, placing them on the trunks, branches, leaves and even weeds growing close to the trees. In about ten days these hatch and the tiny borers drop to the ground or crawl down and work their way into the soft inner bark, often through crevices. Here, as said above, they feed on the inner bark against the sap-wood. At first little brownish sawdust-like castings are thrown out where they feed, but after a time gum exudes. Large masses of this may sometimes be seen. Gum, of course, in peach trees tends to be produced by any wound especially in early part of the summer; also from the disease known as gummosis. There is but one brood a year.

Means of Control. There is no easy means of control and many that are advocated are useless or dangerous to the health of the tree. The best method I know of is to combine the practice of digging out the borers by means of a knife or wire, with mounding up the earth around a tree, or wrapping the base of the trunk with paper. The digging out with a knife should be done twice a year; first about the end of May, so that as few borers as possible may escape to transform into moths and lay eggs, and again about the end of October to destroy the new larvæ. Mounding up the trees with earth to a height of about 10 inches has been found very useful. Such trees are freer from attack than unmounded trees. The mounding also causes the borers to attack near the top of the mound instead of down at the crown, so that when the earth is removed their presence can be easily seen and they can be readily killed with a knife. The mounding to be of value must be done about the end of July and left on until about the middle of October, that is during the period when the moths are flying around and eggs being laid and hatched. Wrapping with paper may be substituted for mounding. Two or three ply of common newspaper placed around the tree to the height of about 18 inches is very satisfactory. This should be tightly fastened with a cord at the top and loosely the rest of the way down. To secure against larvæ getting in below it, a little of the earth should first be removed to let the paper lower down and then earth heaped up about four inches around the base of the paper. Common building paper is also good and is more durable. Tar paper is often used but may do some damage to the tree. Replace the mound as protection against winter injury.

Many kinds of washes have been tried to keep out the borers; most of these are either useless or dangerous. The only two that have given satisfaction are, ordinary gas tar, and asphaltum. The former of these has been known in some cases to injure the trees, the latter is highly recommended by a Californian entomologist, who says that in four years it has done no damage whatever and has given excellent results. I have not myself had an opportunity to test asphaltum. It is a cheap substance, costing, I think, from 2 to 5 cents per pound, and should be procurable through any of the wholesale drug stores. It is applied warm with an old paint brush. In applying remove the soil to a depth of about four or five inches, then cover this to a height of about six inches above ground. It is better to put a light coat on first. This dries or hardens almost at once, then put on another coat so that there will be an unbroken coat all around. It is necessary to retouch the part each year. Some sort of heater is necessary to melt the asphaltum or keep it liquid when melted. See Bulletin 228, Berkeley, California.

The Lesser Peach Borer.—(*Synanthedon pictipes G & R.*).

The larva of this insect looks just like that of the ordinary Peach Borer, and the adult also closely resembles it, but the female has not the orange band around the abdomen. The life history of both insects is very similar. The main difference is that the Lesser Peach Borer attacks chiefly above ground, including the larger branches as well as the trunk. It regularly enters only where there has been a wound. This suggests that the proper means of control is to dig out the larvæ when present and endeavor by careful pruning and orchard practice to have as few wounds on the trees as possible. Where wounds are made they should so far as practicable be cleaned out with a knife and painted with white paint diluted with linseed oil. This insect as a rule is not very common. It attacks cherry and plum trees as well as peaches.

Plum Curculio.—(*Conotrachilus nenuphar*).

The Plum Curculio is a small, stout, hard, rough-backed, black or grayish-black beetle about one-quarter of an inch long. It has a long snout at the end of which are the biting mouth parts. As fruit growers are well aware it attacks not only the peach but also the apple, pear, plum, cherry and apricot; I have also seen gooseberries attacked by it.

It attacks the peach fruit soon after it is set in spring, about the time when it is nearly the size of a hazel nut, and for a couple of weeks later. These early injuries are chiefly in the form of egg-laying with the attendant crescent-shaped cuts which regularly are made about the egg punctures. From these eggs in about a week there hatch little legless, whitish, curved larvæ with brown heads. These work their way into the fruit towards the pit and cause the fruit to fall. The larvæ develop in the fallen fruit and becomes full grown in about three weeks, then they enter the earth to pupate, and about August a new brood of beetles begins to emerge. These do considerable damage by feeding on the peach fruit and causing small masses of gum to exude from the injured areas. They do not, however, lay eggs, and when the severe frosts begin to come they go into winter quarters amid long grass, or under rubbish, or in any good hiding place. Thickets and woods near orchards are favorite wintering quarters and Curculios are always worse in orchards where rubbish, weeds, grass and other hiding places are allowed to exist.

Means of Control. (1) If possible get rid of good hiding places, cut down useless thickets along fence corners, do away with old snake fences and burn all rubbish.

(2) Cultivate the peach orchard carefully up to August. This is of great importance and will usually result in controlling the pest, because it not only removes winter quarters, but it also kills the pupae in the ground by stirring them. Cultivation in July is best for this purpose.

(3) Spray the trees thoroughly with two or three pounds of arsenate of lead in 40 gallons of water when the fruit is about the size of a hazel nut. A little lime is usually added to the arsenate of lead as a precaution against burning.

Note.—It is not safe to use the ordinary home-made or commercial lime-sulphur or Bordeaux mixture on peach trees after the leaves have come out, as they usually burn them. The new soluble sulphur will also burn. The only safe fungicide known is the so-called self-boiled lime-sulphur. See Bulletin 198, or Spray Calendar.

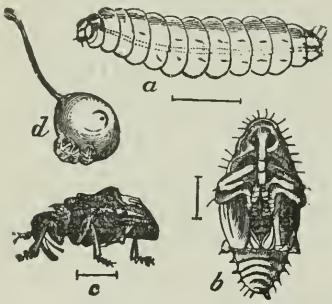

Fig. 2.—Plum Curculio: (*a*) larva; (*b*) pupa; (*c*) adult; (*d*) crescent cut and egg puncture within it on small fruit. The lines beside the figures show the natural size.

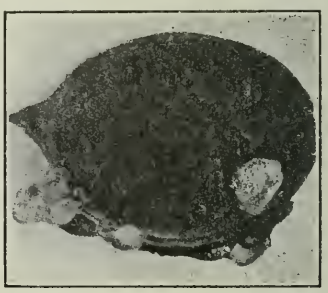

Fig. 3.—Gum exudate on green peach caused by Plum Curculio. (After Quaintance.)

Fruit Tree Bark Beetle, or Shot-hole Borer.—(*Eccoptogaster rugulosus*).

This insect is a tiny black beetle about one-tenth of an inch long. It injures trees by boring little holes through the bark and causing gum to exude from the holes. This is not, however, by any means the only cause of gumming on peach trees. To tell whether the gum has been caused by this insect or not, all that is necessary is to cut off a thin slice of bark beneath the gum and see whether there is a little hole where the beetle entered. If there is no hole the beetle was not the cause.

The beetles cannot remain in the holes nor lay eggs in them in healthy peach trees because the gum drives them out too soon.

It is only an occasional year that this insect attacks a really healthy tree, though about five years ago many healthy trees were severely attacked. The regular habit of the insect is to attack only much weakened, dying or dead trees or branches. They will live also in the trunks and branches that have been cut and piled for firewood. It is only in the dead and dying trees that they can breed.

Not only peach, but also plum, cherry, apple and pear are regularly attacked, plum, cherry and peach being the favorite hosts.

Life History. The insects pass the winter as little white grubs in the tunnels under the bark. This fact is very important when considering means of control. About June these grubs have pupated and transformed to beetles and come out, eating their way through the bark and leaving shot-like holes wherever they emerge. They soon begin to select suitable trees to bore holes into. Once the beetles have eaten through the bark they make a tunnel between it and the wood extending about one inch in length and in this lay a large number of eggs. From these the little white grubs hatch out and make little burrows at right angles to the main one. They feed as they burrow and when full grown pupate each at the end of its burrow or tunnel.

About August the new brood of adults begins to emerge and the beetles may be seen from this date until the severe frosts come, feeding and egg-laying. All adults, however, die before winter. The bark under which the insects have been reared is often much engraved by their work.

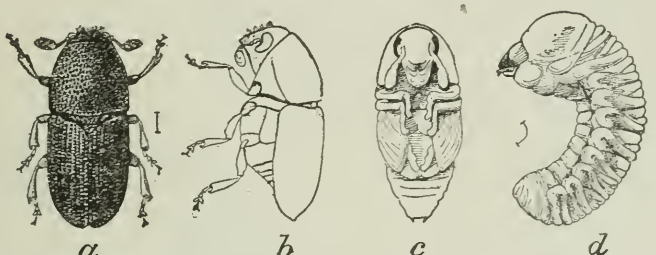

Fig. 4.—Fruit Tree Bark-beetle: (*a*) adult; (*b*) side view of the same; (*c*) pupa; (*d*) larva. The lines indicate the natural size.

Means of Control. Ordinarily the only measure necessary is to keep watch on the orchard and cut down all dead or dying trees, prune off dying or dead branches, pile these together and burn during the early spring before the middle of May. The grubs will be in these and so be destroyed. It is important also to see that there are no brush heaps left around. Of course, all kinds of fruit trees should be treated the same way as the peach for this pest. If the beetles are seen attacking a weakened tree in summer, do not cut it down but leave it until they have laid all their eggs and then cut and prune before spring. In this way the insects are trapped, and the adults, as said above, die before winter. Peach trees cut for Yellows or Little Peach, if meant for firewood, should be used before the end of May, otherwise the beetles will attack and breed in them and the new brood from these may from lack of food attack and greatly injure nearby healthy trees.

To ward off beetles from healthy trees when seen to be attacking them, one may use a thick whitewash made of fresh lime and water to every pail of which about 1/4 of a pound of ordinary salt has been added as a sticker. Put this on the larger branches and trunk with an old whitewash brush or broom. Heavy spraying of trunk and branches in spring with lime-sulphur may help somewhat.

San José Scale.—(*Aspidiotus perniciosus*).

San José Scale is a very dangerous enemy to peach trees, and as it can thrive wherever the peach will thrive, it is likely to be found sooner or later in every peach-growing district.

As I am preparing a Bulletin on this pest and will soon have it ready for press, I shall not go into any details as to its life history, but merely mention that on peach trees it is easily controlled by a single thorough application of lime-sulphur of the strength of the commercial wash, diluted one gallon to about 8 or 9 with water; that is, add 7 or 8 gallons of water to each gallon of commercial lime-sulphur. This application should be applied as early in spring as one can get on the land and should be done before the buds begin to burst, because it is very important that the one spraying should control not only the scale but also the Leaf Curl, a very prevalent and destructive disease especially in wet, cold springs. For the Scale alone the spray would do equally as well just before the buds burst, but as late as this would not control the Leaf Curl. Of course, the trees should be pruned before spraying. (See Bulletin 219, Ont. Dept. of Agriculture).

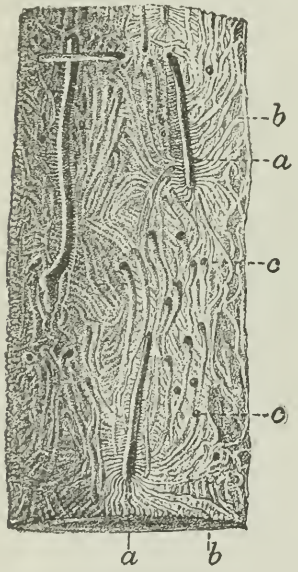

Fig. 5.—Engraving of wood caused by Fruit Tree Bark-beetles: (*a*) tunnel made by adults for egg-laying; (*b*) tunnels made by larvae when feeding; (*c*) areas where larvae pupate; natural size.

Fig. 6.—San José Scale: (*a*) scale on fruit; (*b*) a single scale much enlarged.

Peach Aphids.

There are two species of aphids that attack the peach: the Green Peach Aphis (*Myzus persicæ*) and the Black Peach Aphis (*Aphis persicæ-niger*). Neither of these do any appreciable damage. The former is common on nursery stock in late autumn and may be seen here and there on bearing orchards in the spring, causing a few of the tender leaves to curl, but it migrates from the peach or disappears very soon after the leaves are fully developed. The Black Peach Aphis attacks chiefly the roots of peach trees and is a serious pest in the light sandy peach lands of Michigan, but I have heard of only a very few cases in Ontario. For these reasons no remedies need be discussed.

Peach Twig-Borer (*Auarsia lineatella* Zell).

The Peach Twig-Borer does very little damage in Ontario and is seldom seen here, but on the Pacific Coast and in British Columbia it is frequently seen, and attacks the fruit there as well as the twigs. The adult is a tiny moth, and the larva a little pinkish or brownish caterpillar about two-fifths of an inch long when full grown. The larvæ pass the winter in little silk-lined cells in the soft bark of crotches of branches and in the spring tunnel into the tender twigs as the foliage is opening. They kill the twig. Later generations bore into the fruit, sometimes right into the pit. The pest seems to be satisfactorily kept under control by careful spraying with strong lime-sulphur in early spring at the same time as for Peach Leaf Curl.

Tarnished Plant Bug (*Lygus pratensis*).

This is a very common, light brown or greyish brown sucking insect about one-third of an inch long. It is found everywhere in the garden and fields and attacks a host of plants. On the peach its chief injury is caused to nursery stock, through the habit of puncturing and destroying the buds. When the top-most buds are attacked the shape of the tree is greatly injured, because its growth at the point is retarded and new side buds come out, giving a bushy top. Attacked buds become black, gummy and stubby. The only suggestion I can give for control is not to plant peaches near woods or grass fields, but out in the middle of the nursery field. Those near grass or woods seem to be worst attacked in my observations.

Red Spider (*Tetranydrus bimaculatus*).

This is a tiny mite varying in colour from almost white to light red. It works on the under surface of the leaves, causing them to take on a sickly reddish or brownish tint, sometimes a little suggestive of Yellows or Little Peach. Peach foliage as a rule is not a favourite food for this pest and no remedy need be discussed. Red spiders are, of course, very destructive to many other kinds of plants which need not be named here.

Summary of Spraying Peach Orchards for Insects and Diseases.

1*st Application,* before the buds swell. Use lime-sulphur strength 1.030 or if San José Scale is present 1.035. (Commercial one gallon diluted to about 8.) This is far the most important spray and controls San José Scale, Peach Leaf Curl and to some extent Brown Rot. It is usually the only spray given.

2*nd Application,* when the peaches are about the size of a hazel nut or a little smaller. Use 2 or 3 pounds arsenate of lead to 40 gallons of water and add a couple of pounds of lime. This spray is for Plum Curculio and apparently helps some against diseases such as Brown Rot and Scab.

3*rd Application,* about a month or six weeks before the peaches ripen, use self-boiled lime-sulphur. This is for Brown Rot chiefly and helps against Scab.

THE PRESENT CONDITION OF PEACH YELLOWS AND LITTLE PEACH.

L. Caesar, Provincial Entomologist, O.A.C., Guelph.

I am very pleased to be able to report that there is a continuous, rapid decrease in the number of trees that have to be destroyed each year for Yellows and Little Peach. In 1911, between 50,000 and 60,000 trees were destroyed; in 1912, between 20,000 and 25,000, and in 1913, a total of 5,901, or roughly speaking, 6,000, a decrease in two years of from 50,000 or 60,000 to less than 6,000. This will be good news to peach growers and it gives us all hope for a still further reduction. We ask the growers not to grow over confident, but, recognizing that the work is progressing well, to give us their hearty, intelligent support year after year that we may, if possible, exterminate these diseases, or at least come near doing so. We should not forget that it is very probable that the last two seasons have not been at all favourable for the development and spread of these diseases. If so, we are glad that we have been able to take advantage of nature's aid and so reduce the danger of rapid spread in future seasons more favourable for the disease.

Mr. Biggar, the provincial inspector, and myself are well pleased with the work in practically every township but two, Grantham and Niagara. The disease is only moderately common in these townships, but the territory is too great for any one man to cover satisfactorily, no matter how experienced he may be. The inspector, however, in each of these cases was an inexperienced man. There should be two of the very best men that can be secured appointed in each of these townships, at least, for Yellows and Little Peach. We hope this advice will be acted upon next year. Mr. Biggar and I, so far as it is possible, will try to give these townships the larger part of our time, so that the work may go well.

We have been fortunate in retaining most of our best inspectors, and are glad to be able to report that they have done loyal and excellent work for their townships, better work than most growers are aware of.

To Mr. Biggar, the Provincial Inspector, whose energy and enthusiasm in the work is unfailing, and whose tact and knowledge are of the greatest value, both to inspectors and growers, very great gratitude should be felt by every man who is interested in the welfare of the peach industry. Owing to the pressure of the new work of nursery inspection, and to numerous other duties, I entrusted to Mr. Biggar this year almost the total supervision of the Yellows and Little Peach inspection work, knowing that he would do it well.

The Results of Investigation. (1) Observation of the results of so-called cures of the disease have not led me to change my opinion that all such cures are only imaginary—they have all failed. The only remedy yet seems to be eradication: dig out the diseased trees at once and burn them.

(2) Experiments last year, repeated this year, show that if peach pits are taken from trees that do not show the disease until late on in the season, and if those pits are cared for in the best way and cracked in spring time before putting out in rows, often as high as 7 or even 8 per cent. will germinate. I have tested now over 3,000 diseased pits. Some of these from lack of experience I allowed to become too dry before planting, and consequently a very small percentage grew. This was true of healthy pits kept as checks, but of the others that were cared for properly from one lot of 100 in 1912 there grew 7, and from another lot of 750 in 1913, 59 grew, or nearly 8 per cent. Mr. McCubbin, the Dominion Plant Pathologist, of St. Catharines, got very similar results.

(3) So far the seedlings from these pits have shown no signs of disease. Mr. McCubbin and I have now about 160 of these seedlings in one lot, and will watch them to see whether they will show disease, and if so, how soon.

(4) More than 200 buds from diseased trees were budded into healthy seedlings and four year old trees a year ago. Only one tree, one now five years old, shows possible symptoms of disease. The rest are still healthy. I have budded 200 more seedlings this fall, believing this a most important and instructive line of work. I expect a considerable number of the trees budded in 1912 will begin to show disease symptoms by next September. I am not at all surprised that they have not done so earlier, as the trees are all growing vigorously.

(5) From inoculation of blossoms, from inoculation of trees with sap, from pruning tests, bark rubbing tests and the other experiments up to the present no disease has followed, but this is no proof that none will follow.

Before repeating these experiments I think it is much wiser to wait a couple of years for results. The work has been carefully done and covers pretty well the field which I thought most desirable from the standpoint of important information on the control of the disease.

(6) No new discoveries, I believe, have been made elsewhere on these diseases, and apparently no one is much nearer the discovery of the real cause of either Yellows or Little Peach.

(7) My intention of removing trees to parts of Norfolk for investigation work has had to be abandoned for the present at least, because of the difficulty of looking after them at such a distance.

THE DISTRIBUTION OF THE PEACH CROP.

S. H. Rittenhouse, Jordan Harbor.

I am very much interested, as you may know, in the growing of peaches and in the very low price that we, as growers, have been forced to take in the last year. I am also very deeply interested in the question, which is frequently asked: Is the peach industry over done: has planting been over done? Now, before I go any further with my talk on this subject let me say that I only consented to give an address in so far as I might be able to start a profitable discussion. I think that we as an Association can very profitably discuss this question. Because of the very low prices that many of us have been forced to take in the last year, the question naturally arises: Can we, as growers, do anything to remedy the situation? I have been asked the question very many times in the last two or three years whether we as growers were not planting too many peach trees: my answer usually is no, and yes; it won't be my answer this afternoon. I say without hesitation we are not over planting and that with good conditions for marketing, our product would be more than taken up for many years to come. While we are probably making great advances in producing good fruit, with our improved methods, to my mind I think our system of marketing is very crude: if that is the proper way to put it we have no *system* of marketing. I am only expressing my opinion on the question, and I hope that what I have to say will provoke some discussion along this line.

It may just be possible that the reason I was selected to open this discussion was because the committee knew something of my conditions and circumstances. I happen to be one of those unfortunate small growers and I am also unfortunately not identified with any co-operative associations or organizations, and that I consider unfortunate because I see that the peach growers, especially in the Niagara district, are, through their united exertions, getting about in the position where apple growers in almost all sections of Ontario are at the present time. You may know it is a fact that a small grower in almost any locality in Ontario cannot profitably market his own apples. That is to say by the small grower I mean those people who produce less than 200 barrels, that is less than a carload. I say again it is practically impossible for the grower of 50 and 100 barrels to profitably market his apples. Now, that is just the condition or state of affairs that has confronted the apple growers, and has forced into existence co-operative organizations which they have to-day, and yet I do not think in their present shape that they have reached anywhere near perfection, whereby the marketing of apples in this province has been put on a very much better basis than it has been in the past.

Now, I do not think I will venture to suggest any schemes or plans by which the situation in reference to the peach industry, or distribution of fruit, may be improved. I have ideas in my mind but I am not quite as clear as I would like to be as to how best they may be carried out. There are a lot of operations in connection with the production of fruit for market, especially picking and packing. I am not now referring to the marketing of fruit in baskets, but other operations which go hand in hand with the distribution of the crop, but which I will not take time to discuss. My sympathies have always been with the co-operative idea, and we have come to the point in the peach industry where a very large percentage of the crop must go out in carload lots. I am referring now to the Niagara District particularly, and of course that system handicaps at once the small producers so that that idea could only be carried out effectively and to the advantage of small growers by putting into effect co-operative schemes.

I have no criticism to make of the dealers. They handled a very large percentage of our crop last year and in previous years, and, if anything, I believe they have done more for the peach industry than any one body of men, because they are continually developing new markets which would otherwise not have been reached by the grower. I might refer to some instances that have come to my notice, but I do not know that there is time. There is, however, an important question connected with the consuming end of this business and it is this: that there is too wide a margin between the price paid by the consumer and that paid to the grower; and this in every town and city in the province. That is a problem for the growers to deal with as they see fit, and I do not know of any organization better qualified to deal with and overcome this difficulty than the Ontario Fruit Growers' Association. Along that particular line I think considerable time might be spent to advantage discussing how best to overcome that difficulty. We, as growers, are very much interested in the comparative price paid by the consumer and that paid to the grower. I have not much to suggest myself, for I had no time to prepare an address or think out any line of argument. I would very much like to hear some discussion on the few points I have enumerated, and if any one wishes to ask me any questions I shall be glad to answer them if in my power. I live in the Niagara District and so am familiar with conditions there.

Mr. Bunting: I can, perhaps, enlarge on a few points. In the first place, as peach growers I think we have been too anxious to get great crops of peaches, I mean in point of numbers, and not sufficiently anxious to raise crops of peaches of the very highest quality. Growers of peaches in a season when they realize the fact that they are face to face with a large crop of peaches in all the districts should endeavour to reduce the quantity and increase the quality of their output; that would have a great deal to do with bringing them better returns for their crop; they will get a higher price and have less handling. There is no doubt in the past few years, owing to the high price that has been paid for peaches, there has been a great temptation to enlarge, in some cases, their already large orchards, and to increase those orchards of an acre or so to 20, 30, and 40 acres, and there have been some very large individual orchards planted and coming into bearing within the past year or two. There have been also a large number of varieties planted, and a very large proportion of the peaches put on the market have been of a very ordinary quality. Of course, the past season has been one of very peculiar conditions owing to the fact that the one large consuming factory is not in the market for peaches this year—the canners' factory; that is, they are not in the market to any extent. Growers not expecting that condition have been confronted with circumstances they could not be prepared for. However, I think our growers realize the value of quality rather than quantity in their crop of peaches, and that being understood will to a large extent prevent a recurrence of the situation of the past season.

As an illustration of the effect on returns the quality of peaches grown may have, I point to the fact that in my own business in one day, in Toronto, I sold one variety of peaches at 15 cents a basket, and the very same day I sold another variety of peaches at 75 cents a basket; in the one case I made a loss and in the other case I had a satisfctory return. That was simply because in the case of the poorer variety, that had not been properly thinned, they had nine or ten dozen baskets, while the five or six dozen baskets of the better variety properly thinned produced a profit and the others of a poorer variety a loss. My own practice in the distribution of my crop has been that at springtime I have endeavoured to forecast the prospects for the season, and where I have expected a large yield all round I have thinned out my peaches to get the very best quality on each tree, and I have found that practice to be very satisfactory. I have endeavoured at all times to give my customers the very best quality. I have heard of orchards that had previously only got the one order having repeat orders regularly, owing to the better quality of fruit produced.

With reference to putting your crop in the hands of dealers or marketing direct to the consumer, that is for the grower to decide. The Toronto market is perhaps the best consuming market of peaches in large quantities we have in Canada. It is as good a market as we can get for large quantities. Peaches are shipped in here by the thousand and tens of thousands of baskets, irrespective of grade or quality, and the condition of affairs produced is not always satisfactory to the peach industry as a whole. Now, in regard to the towns and villages, and country districts, that are within easy reach of the producing centre, I do not think they get nearly the supply of peaches that they could consume; not yet at any rate. We could have a better distribution of the crop by the wholesale dealers, who cater to the retail trade in these various towns, or by endeavouring to work along co-operative lines; growers making up carloads

and shipping to towns that are large enough to take them. By running an advance advertisement in the local paper stating that first-class quality of peaches would be in evidence on such and such a date you would create a demand for them and the people would regularly look forward to the peach season.

Better transportation facilities are a very serious need in the case of the peach grower, or for that matter in the case of the grower of any fruit. The peach requires careful handling; quick despatch to reach the markets as rapidly as possible, and I do not think at the present time that we are growing more peaches than the country requires. If the transportation facilities were such that all who want peaches could get them, within a reasonable distance, I think every peach that is grown in Ontario would bring a price on the market. I am not advocating a high price for peaches. I think the people of this country should be able to get large quantities of peaches at a reasonable price. I am prepared to do my part to bring about that condition of affairs. I consider we are making good profits, and that by selling at a reasonable price. When we get $1.00 and $1.25 a basket for peaches we are getting good money for them. We can ship good fruit for less money and still make a profit. I do not like to sell them for 50 cents a basket, but in selling round 50 cents a basket I think we could make a living. The prices for peaches in the past few years has been such that the public is getting accustomed to pretty high prices, and the grower does not care to accept the lower price now. I think we can put a good face on the matter and be prepared to accept a reasonable price. Do all we can to have good trees, and give the crop careful attention for the first six weeks. During the last six weeks or two months that crop should be carefully thinned out in order to produce the very best quality of peaches.

THE PRESIDENT: When do you thin your fruit trees; and how many baskets would that lessen the crop per tree?

MR. BUNTING: I do not think it lessens the volume of the crop if it is done judiciously, but if it did, I would rather have one basket of fine peaches than three or four baskets of the quality I have referred to as being poor.

MR. HODGETTS: How do peaches compare with apples in the cost of raising?

MR. BUNTING: It takes a life-time to bring an apple orchard into bearing, but you can get results from a peach orchard in three or four years. Peach land is limited in this country and very limited in Ontario, but apple land is not so limited. As to the relative value of a first-class peach orchard and a first-class apple orchard under equal conditions, I do not think I could say there is very much difference.

MR. HAMILTON: There is a conundrum I would like to have answered. About ten years ago a number of us living outside the peach belt round Lorne Park district planted a number of peach trees and we have a splendid showing of peach trees so far. I think during the nine years they have been growing I have gathered some six peaches until this year. This year the spring opened under unusual conditions. We had very heavy spring frosts, with the result that as far as our strawberry crop is concerned it suffered very materially, and I believe this was true of a large section of the country. That is probably the reason we had such a shortage in strawberries, as well as in the apple crop. I went through the Niagara district during the height of the peach season—that is, within the commercial area—and our trees were all heavily laden with finer peaches than were growing in the

Niagara district. Now, this seems to be an extraordinary condition of things, when the peach tree, which is the tenderest tree, escaped from the effects of even these heavy frosts that we had this spring, while the other hardier fruits went down under the very same conditions. I do not know whether that has been the experience of others that have been growing peach trees outside the commercial peach districts of Ontario, but it was so in Mr. Hodgett's own section. It was a surprise to see the peaches which were growing there; the quantity of peaches grown there under the conditions that prevailed. That is in regard to the spring crops. I do not know whether there is anyone who can explain that to me. The problem I wish solved is this: The frosts of last spring came when my peach trees were in full bloom; other years, when I have had what I considered a successful season, with a large showing of blossoms upon the trees, they bore no fruit, but this year after exceptionally heavy frosts, that I say hurt the hardier fruits, we had as large a crop as I saw on any peach trees in the Niagara district. What would account for this condition of affairs?

Mr. Caesar: I think, perhaps, I can partly answer that; I may not be able to give you a full explanation. The peach tree blooms before the apple tree. If a peach tree has flowered and has once become fertilized; the pistil, being the part of the flower that receives the pollen, after receiving the pollen very soon forms a little short tube-like structure which runs down straight with the pollen into the ovary. Now the frosts came somewhere around the 9th, 10th, and 11th of May, and your peach trees were out in bloom at the end of April, that is they were pretty well out. Apple trees were coming out in bloom up to the first of May. Now your peach trees had been fertilized and this pollen tube, as we call it, had run down and fertilized the ovary so that when the frosts came along and attacked the trees of that district the work of fertilizing had been done and the ovary is protected by a covering which is called a stigma; the tender part, the part subject to frosts, is well hidden. Now this took place before the frosts of which you speak came to attack those peach trees. The apples, on the other hand, in some districts, were just coming out at that time, and were just nicely out in bloom when the severe frosts came; those that were just out in bloom were in many cases destroyed. In regard to these conditions as they affect an apple tree, the blossoms do not all appear at the same time; blossoms of the same bud open at different times. The centre one of these will open first, then a lower one next and again certain other buds later, so that a severe frost coming might get two-thirds of them, and yet there might be one-third left for an apple crop. The stigma of a peach will not stand one degree of frost, and stamens of the peach will not stand two or three degrees of frost, but when a peach tree is once fertilized it will stand a number of degrees of frost.

Mr. Thompson: I do not agree with Mr. Rittenhouse that the peach is such a tender fruit it will not stand handling. I think the peach will stand considerable handling, but not perhaps what apples and hardier fruits will. Now, as far as we are concerned as dealers, I may say that I have endeavored to reach right out into the small districts where peaches are not grown, and where they are not in close touch with large towns. I think there is a great deal of work to be done in opening up such territory. Even yet, in the majority of cases, the dealers are inclined to charge very high prices. That, of course, militates against the districts where the peaches are not grown, as under those conditions it is only the wealthy who can afford to indulge in them. Mr. Armstrong made quite a point this morn-

ing when he said that the low price of fruit was, he thought, of great benefit to the trade in so much as there is a large class of people who cannot indulge very freely in luxuries, but who were enabled this year to buy peaches, and once having tasted them the chances are that they would another year make a greater effort to obtain the better class of fruit. As a preserving fruit it stands out at the head of the list; there is nothing that comes up to the peach in taste. It should be our endeavor as growers to have the market spread out and create a demand for the fruit. Mr. Parker, who was here this morning from Nova Scotia, said that in his town and in New Brunswick and Nova Scotia generally he did not see a single peach brought in from outside, and the peach land in that part of the country is very limited, and there are not many peaches grown there to compete with what shipments we might make. He claims that what few peaches were offered were sold for enormously high prices. As Mr. Rittenhouse says, there is far too wide a margin between what the consumer pays and what the grower receives for his fruit.

I have often thought it would be a good thing for some of the horticultural societies, preferably the horticultural society of the Niagara district,—because the association of that district sends out bulletins all over Ontario —to start a campaign which would reach all over the country, relative to the peach and other fruits that are grown in the Niagara district, and try and stimulate a demand. What do other commercial enterprises do? When a manufacturer is putting goods on the market he does not wait for people to come to him and ask for grape nuts or any other patent food, but he advertises far and wide, in all sorts of ways, and the advertising creates a demand. We are doing absolutely nothing for our fruit along that line. We simply rely on retail dealers and people asking us for what they want; if they fail to ask us for it the fruit is palmed off on some local market, and shipped to them whether they want it or whether they have enough. There is absolutely no regard paid to the business end of the industry when we do not get the orders we think we should get. It seems to me that this Association, or a similar association, might do something to improve matters along that line. Take some definite line and advertise freely and create a demand for our fruits. The same thing could be carried on in regard to apples. It has always occurred to us that something could be done along that line, and could be better done by an association than by one or two dealers. The dealer is only anxious to retain the good-will of his customers, he does not wish to encourage the development of the industry. But if we all worked together to promote the fruit industry there would be a very much better atmosphere in the trade. We have our own ideas; we manage to distribute the fruit that is grown in our own immediate vicinity. There are some sections where they are perhaps not quite so successful, and the improvement of this condition of affairs requires a good deal of careful thought.

Mr. Armstrong: I think I can offer a few suggestions in the way of remedying this bad distribution of our peaches especially. I remember some twenty or twenty-five years ago instead of shipping to Toronto I used to ship east, all the way to Montreal, Peterborough, Prescott, and so on. I began to notice that the market would only accept a certain amount of fruit and that then there was a slump. I then decided that I would either have to give up that market or go to Toronto as well. Toronto was what I would consider my legitimate market for the township of Niagara. The township of Niagara has no outlet except by boat, and that reaches Toronto, as you all know—the Niagara boat. Now, I was speak-

ing on the question some fifteen years ago to a number of growers round Grimsby, Jordan and that neighborhood through the Niagara district, and this question was asked in regard to the distribution of fruit: Was it right for the Niagara township and those on the main line to compete with each other in the eastern market? We decided it was not. I finally decided that I would give up both east and west and stick to Toronto and there take my chance. That conclusion was a good one for me, for I have done well ever since; I do not think I could wish to do better. This year a change has occurred. Instead of the Niagara grower shipping entirely to Toronto they have branched out and are competing with the Winnipeg and Montreal markets, and so on; what is the result? You know it. I think that as an organization we are in a position to follow the plan of finding out whether a certain market will receive a certain amount of fruit in one day, or in a week, or in two weeks, and let that market have the quantity that they can handle and no more. It is up to the railways, of course, to make the means of distribution better. This transportation problem is a very serious one with the fruit growers. The people want the fruit, and are willing to pay a fair price for it. The railway people are really the men who should look into this question more seriously. We can only suggest the changes we think necessary, it is up to the railways to make them.

Now, that fact of my changing from shipping east and west and shipping only to Toronto has been worth thousands of dollars to me, because before I was competing with my neighbors from Grimsby and Beamsville in the same market. Just as soon as I changed my tactics I made money, previous to that I lost money. I lost money in Montreal several times I remember; I lost money in Winnipeg, and this year I have received no such prices as 15 cents a basket for fruit.

HELP IN FRUIT PICKING TIME.

Mrs. L. A. Hamilton, Lorne Park.

I will not say that I do not know anything about farming, for I have been ten years on a farm, and I think my husband will sustain me when I say I have tried to do my full share of the work of the place. While there I have had occasion to see the great difficulty that assails every grower of fruit, especially the grower of small fruits, in the getting of necessary help at picking time. Not only the question of getting enough help, but the quality of the help is one I think every farmer pretty nearly has had occasion to find fault with. We do get, in every district, a certain amount of help. I would like to ask if there is any fruit grower present who gets enough help?

Mr. Armstrong: I get enough help.

Mrs. Hamilton: Well, then, I think that you are the exception that proves the rule. I think certainly, in regard to our district, that we never did get enough help. We got a certain number of young people from the cities who lived in shacks and boarded themselves, but people coming out from the cities, away from all restraint and supervision, are apt to be very difficult to handle. Some local pickers—and very good they are, too—pickers who have had years of training, we are only too glad to have, and we all clutch after them; but they are also apt to

be uncertain. These local pickers, good as they are, have their preferences, and very often you will hear this remark when you have started some three or four of them on a patch: "The berries are thicker over there at So-and-So's farm; that will pay the best; I am going over there." and you are left in the lurch. Now, some years ago in our district one of my neighbors employed three English ladies who happened to be in this country; one was a graduate nurse, and the other two came out for a holiday, and to spy out our land and see for themselves the conditions. They did very well, although they had not been brought up to this kind of work, and knew absolutely nothing about the fruit picking industry. So we wondered, if we really tried, if we could not get a class that would be useful to us. Besides these young people there might be more of such a responsible class that we might get hold of. These ladies have proved that to us. We got in touch with those we thought would be interested in this kind of work, and who would be likely to hear of girls who wanted to get away for a country outing; willing to come out and pick fruit, and spend two, or three, or four weeks in the country. Several came the following year and worked for the season, boarding in a shack and cooking for themselves. They were all very superior girls, prepared to do their part of the work well; but we found that at the end of the day cooking was rather too hard work after ten hours in the field. We found them so excellent and so steady at picking we thought perhaps we could do something towards getting this class of girls again. We therefore tried a little experiment which I am going to tell you about. A friend in the City of Toronto, interested in the development of the country districts, was kind enough to give me five hundred dollars with which to try my experiment. I rented two cottages and talked to various people who knew young women in factories; domestic servants, stenographers, any likely person we could find out who would prove responsible; and then through my connection with the Old Country, and other connections there I was constantly having letters from young gentle-women who wanted to get into the farming districts in Ontario.

I was able to distribute my pickers among the farmers; I think there were six to each farm. In one or two cases when there was a slack time at one farm I would send them to another. I may mention that some of the farms had very large patches, and when one man's patch became slender I would send the girls to another patch, and in this way I managed to keep these girls employed the season through. They also in the intervals did hoeing and weeding, and this year they picked tomatoes and dug potatoes. They all became extremely useful to us. A little organization is necessary in order to distribute these girls; that was done by myself. I think that could be done very well by the matron of such a home or by a committee of ladies. Now I am happy to say I have had two very successful seasons. We employ a capable cook matron to care for the home comforts of the girls, and try to give them some fun and enjoyment after working hours. One great point in regard to this work is this: These pickers that come to this hostel are given board at three dollars per week, and are thereby responsible to us; that is to say, if we take them into the hostel they undertake to pick where we say they shall pick, and not move off from one farm to another. We allot a number to each farmer for the season. If he is slack he is willing to allow them to go on to other farms, but in general where say six pickers are allotted to one farm it is for as long as they may be required on that farm, which is generally, in the Lorne Park district, a season of ten weeks.

At the end of the season I sent, last year, eleven of these girls to other districts: to the Niagara and Grimsby fruit sections; this year I distributed twenty-five. So that a centre of this kind may act, I hope, as a distributing agency for the benefit of the fruit grower who cannot find enough help. I must emphasize one point in regard to this work. We do not want the wrong class of help. You have all, possibly, had the experience of a lot of inexperienced young women in your community, and in such a case it would be quite impossible to make the experiment a success. You will be pleased to know that in this experiment, where we charge the pickers three dollars a week for their board and lodging I have come out both years with a substantial balance on the right side of the working account. I tell you this because I am suggesting to you that this experiment might be carried out in other districts, but it is absolutely necessary where it is attempted that some responsible woman should be in charge, and one who would take a motherly interest in the girls. I think in an association such as the Fruit Growers' there would be ladies, perhaps members of the Women's Institute, who would be glad to do so. It is only a seasonal thing; it does not last the year through. Of course, with proper organization, work might be found of a suitable nature for those who wanted to work the whole year, if they were willing to go on into domestic work.

I believe that this is not the entire solution of the fruit problem, but it is in the nature of an auxiliary. I found that in two years, with very little advertising, I have got in touch with quite a number of channels through which to secure workers; educated girls; girls from big stores or factories; ladies from England who have written to me, or written to friends of mine, and many others who have heard about my work at Lorne Park. I have a good many applications from all sorts of people. There should not be very much difficulty for a district like Grimsby, near a manufacturing centre, to get this type of woman; the type we want for fruit picking. There is another side to this which I want to recommend for your careful consideration. In connection with this work we get some very desirable girls amongst us. There is one in the room to-day; I am extremely proud of her, for she has gone on to Guelph, and I believe she is doing some very good work at the College. We are proud to think that an Association of that kind can bring just the type of young woman who is going to be a valuable adjunct to our community.

Now, I want to speak of one or two things in regard to the buying of fruit. Much has been said about the producer here, also much about the consumer, but not a very great deal has been said about the buyer. Now the buyer in nine times out of ten is a woman, and I think perhaps you would like to hear just what women think along that particular line. We all know very well that attractiveness has very much to do with buying of fruit, and women will buy a basket of fruit that has been put up attractively when she might not consider the buying of one not tastefully packed.

Then, if I might suggest it to you, your packages are very much too heavy for women. When we women are coming back from a day's shopping we would very much like to have nice little baskets of fruit instead of the heavier ones to carry home. Then I think that the packing of the individual fruit might be improved, and when we get the type of women I speak of more interested in the fruit packing business, perhaps more suggestions will come from the packers and pickers themselves. I have already had valuable suggestions from twenty-five girls out in the Niagara district this year, so I think from what I have gathered that it

would pay you to get the right class of girls to do the picking. You want to get a more educated, intelligent girl. The domestic servant type that has had so much to do with fruit and vegetables is particularly intelligent along this line. I have had a lot of valuable suggestions from such girls.

Last year, that is the season just before the one past, we illustrated what turned out to be a most successful experiment with Bartlett pears. I want to bring the woman's point of view on this subject before the members of this Association. I had identical pears assorted in two lots which I sent in eleven-quart baskets. The same grade of pears. The wrapped pears brought 75 cents per basket and the unwrapped 35 cents per basket. Now, I think I would like to see in connection with the peach industry rather more quality and somewhat smaller quantity of carefully picked and properly wrapped peaches. When a buyer, say from a hotel, wants to buy three or four peaches for each table he wants to have something attractive, wrapped in charming little pieces of paper. Peaches carefully wrapped in tissue paper look so deliciously attractive that any man or woman, I think, would be inclined to pay a little more in order to possess them.

There is one more point in regard to the packing of peaches. Let me suggest that you cannot think too much of the cleanliness and comfort in the place where the packing is done. If we want to attract the best kind of pickers and packers, then we want to think a little more of their comfort in order to get their best efforts. By doing this we make better friends of the pickers. Now in prune and plum packing in California the women are seated at a specially constructed table. I should like to see all packers have seats. I think seats for packers might be a little more general. Ten hours a day is a long stretch for any woman or man to stand at work. I think the work can be done quite as well when the packer is seated. So that when you are rebuilding or reorganizing the packing houses, have seats arranged for the workers, which I think will be of advantage in giving you workers who are not overtired.

I have some reports of my work which I am leaving on the table here for those who want a copy. I am happy to say that my very much better half has thrown himself into this work with me, and was good enough last year to give me several buildings. He felt so strongly that it was a good work: this finding congenial employment for girls who were struggling to get into the country. He gave me a lot of buildings last season, the year before I rented, and now he is adding to the place considerably. The buildings have done admirably for me, and that is his contribution to the work.

In regard to the working expenses I have made the hostel pay its own way, and any surplus goes for improvements. The girls pay $3 a week for their board and lodging; we paid the matron $30 a month, and she hired her own help, a little girl for half a day. Of course the growers call for the girls that are going to pick with their wagons and take them to and from their work. I think similar houses to this hostel could be put up all round the country and the distribution of pickers could be carried on and would not be at all difficult for associations of farmers.

I should be delighted to have people come out and see what we are doing. I hope I have made some useful suggestions, and that it may be possibly one of the little ways of attacking this question of the fruit picking. Please think of what it is going to do for girls shut up in stores, factories, and kitchens, if you can give them buildings where they can be looked after, where the hardships and toil of the

housework will be taken off them, where they will be cared for, and where they will be enabled to earn a little money for their board, and get the country outing, which they very much need; surely "they will rise up and call you blessed."

MR. DEMPSEY: That is a very interesting address we have just listened to, and it contains a number of suggestions which might be advantageously adopted in many of our districts besides Grimsby, St. Catharines, and around Niagara, for they are not the only pebbles on the beach. There are a great many districts lying east and north of here who would have employement for just such a class of pickers for at least six weeks, and I am sure they would be glad to know of this hostel and employ some of the girls.

FRUIT HANDLING AND PRECOOLING INVESTIGATIONS.

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(Paper Read by R. R. Graham, O.A.C., Guelph.)

It is impossible to discuss precooling without reference to the importance of the handling given the fruit, and a large part of the discussion will be devoted to handling problems.

The term "precooling" has been applied to the method of promptly and rapidly reducing the initial temperatures of produce intended for shipment. The work requires special equipment aside from that needed to maintain the low temperature after the initial heat has been removed.

Precooling, or chilling, has been used for a number of years in preparing meats for shipment, or storage, but, as far as is known, the first application of this process to the handling and shipment of fruits was made in 1904 by Mr. G. Harold Powell, who was then in charge of the Fruit Transportation and Storage Investigations of the Bureau of Plant Industry. The first work consisted of the precooling of peaches intended for shipment from Georgia to Northern markets. The equipment used was necessarily rather crude; yet some very definite results were obtained. Later on, the process was applied to oranges and deciduous fruits in California, and since Mr. Powell's early work special attention has been given by the office of Field Investigations in Pomology to the investigations of the problems connected with the precooling of different fruits. In addition to oranges and peaches, these investigations have been extended to table grapes in California, and last season work was begun on cherries and fresh prunes in Oregon and raspberries in Washington. Special equipment has been supplied in order to enable the work to be carried on at different points in the United States.

In an article on the Precooling of Fruit in the Year Book of the Department of Agriculture for 1910, a general discussion of the subject was presented and the following paragraphs are quoted from that article:—

THE REASONS FOR PRECOOLING.—During the maturing of a normal fruit on the tree certain chemical and physiological changes are constantly taking place within the fruit itself. These changes, which result in the acquirement of quality and flavor, constitute the ripening process. After a certain point is reached the fruit becomes over-ripe, quality and flavor is lost, and deterioration progresses until eventually the fruit is destroyed by fungous decay or fermentation, or through destructive physiological changes.

A fruit may be considered as a living organism which has a definite span of existence, the length of this span depending upon the conditions surrounding the organism. The most important factor which modifies this span of life is temperature. When the fruit is removed from the parent plant the life processes constituting ripening are materially hastened and the life span is greatly shortened if the fruit is allowed to remain warm for any considerable length of time. Hence, the importance of reducing the temperature as promptly and rapidly as possible after the fruit is picked.

The length of the life span differs with the character of the fruit. It is shortest in the soft fruits, such as berries, cherries, peaches, apricots, plums, and most pears, and longest for the harder fruits—citrus fruits and apples. It varies with different varieties within the same group of fruits. Some varieties of apples, for example, keep longer than others; lemons keep longer than oranges. The importance of quick and prompt cooling—precooling—then, is greatest in the case of the soft fruits and least for the harder fruits. Experience so far confirms this rule.

Aside from the breaking down from over-ripeness, fruits are subject to premature decay, due to the attacks of various fungi. The most common forms of these fungi, however, have not the power to penetrate the sound, unbroken skin of a healthy, normal fruit. Most of the decay occurring in fruits in transit and storage starts at injuries and breaks in the skin, caused almost entirely by rough handling in preparing the fruit for market, either in picking, packing, grading or hauling. Wounds, bruises, scratches or abrasions of any kind allow the organism of decay to enter. Other fungi which are not dependent upon injuries to start, attack fruits in transit and storage; but these forms of decay are much less prevalent.

The germination of the decay spores, which are analogous to the seeds of higher plants, is dependent upon proper moisture and temperature conditions. Germination does not take place while the fruit is perfectly dry or when the temperature is low. After the spores have germinated, however, and the decay has started within the fruit, even as low a temperature as 32 deg. F. will not wholly check it. Growth of the mold is only retarded and the decay continues slowly to develop.

The prompt and rapid reduction of the temperature below the point where decay spores germinate prevents the development of disease. Some fruits which have been rendered susceptible through mechanical injuries occurring in handling may be transported with only slight loss from decay when promptly cooled. It is not safe, however, to depend upon precooling to prevent decay which follows improper handling. *Precooling should never be expected to replace proper work.* The fact that it does not always effectively replace careful handling is shown by the Bureau investigations with table grapes. The results of this work will be discussed later on.

It has been the policy of the Bureau to advise conservative caution in the application of precooling on a commercial scale. It was realized that precooling would not prove a panacea for all the troubles which the different fruit industries were experiencing in transporting fruit to market. The importance of careful handling was consistently urged and all efforts were made to emphasize the necessity of handling the various fruits in a manner to insure their sound carrying qualities. The Bureau work has shown there is a consistent relation between the type of handling given fruits in preparing them for shipment and their behaviour during transit or storage. There is practically no way to avoid the possibility for the occurrence of decay and deterioration due to the careless handling on the part of the grower or shipper who prepares the fruit for market. To use precooling as a means to overcome difficulties which ordinarily can be eliminted by packing the fruit in sound condition, is not only poor policy, but is dangerous to the reputation of the product. Precooling does not absolutely prevent decay. The reduction of the temperature simply arrests the development of mold, and therefore the deterioration due to these agencies occurs after the fruit arrives in market. Such fruit will soon gain a reputation for poor shipping qualities. The correctness of this early conclusion regarding the uses of precooling has been emphasized by later work with table grapes. With this class of fruits, results of three con-

secutive seasons show that precooling does not effectively replace careful methods of handling. There was in some instances a slight reduction in decay due to injuries or to other causes in cars which contained precooled fruit, but the benefits from the precooling process without attention to careful handling were not sufficient to justify the extra trouble and expense.

In order to emphasize the results from the table grape handling and precooling work, the accompanying tables and charts, giving summaries of the three seasons' work on Tokay grapes from California, are presented:

TABLE I.—AVERAGE PERCENTAGES OF DECAY IN SHIPMENT OF TOKAY GRAPES FROM LODI, CALIFORNIA, TO NEW YORK CITY, SEASONS OF 1908, 1909, 1910.

	On arrival	Two days after arrival	Four days after arrival
Season of 1908:—			
Packed in ground cork	1.6	4.2	6.6
Carefully handled in crates	4.2	7.8	16.2
Commercially handled in crates	9.6	14.7	33.9
Season of 1909:—			
Packed in Redwood Sawdust	0.2	0.6	0.7
Carefully handled in crates	0.9	2.6	5.1
Commercially handled in crates	4.4	7.4	15.8
Season of 1910:—			
Packed in Redwood sawdust	2.2	3.6	4.2
Carefully handled in crates	4.0	5.8	9.3
Commercially handled in crates	6.5	9.6	15.8

A glance at the figures shows that by careful handling, aside from precooling, the decay in grapes shipped from California may be held at a minimum. The figures presented comprise the results obtained from the systematic handling, shipping, and inspection of a large number of crates of grapes produced under a wide range of conditions. The figures also show the behaviour of this fruit after arriving at market. Inspections were made on the day of arrival, after holding two days, and after four days: the fruit being held under open market conditions and without refrigeration. The consistent effect of careful handling after the fruit arrives in market is strikingly shown. The importance of having such perishable fruit hold up after it arrives in market need hardly be emphasized. Grapes which arrive with as low a percentage of decay as is shown in the figures from the carefully handled lots on arrival in New York may be reshipped to neighboring cities with perfect safety; whereas, the commercially handled lots deteriorate so rapidly after arrival that they must be immediately consumed, otherwise a large proportion of the fruit is wasted. The figures also show the percentages of decay obtained from grapes packed in ground cork and redwood sawdust. The use of a filling material in packing California grapes reduces the decay percentage to a minimum. It has not been thought wise to advise the change from the old method of packing crates to one using a filler because of the difficulty of introducing a new style of package under commercial conditions. From the last season's experience, however, there is some indication that at least the best grades of grapes may be packed with this filler, and no attempt will be made to introduce this new system of packing for ordinary commercial shipment.

TABLE II.—AVERAGE PERCENTAGES OF DECAY IN PRECOOLED AND NON-PRECOOLED COMMERCIAL SHIPMENTS OF TOKAY GRAPES FROM LODI, CALIFORNIA, TO NEW YORK CITY, SEASONS OF 1909, 1910 AND 1911.

	On arrival	Two days after arrival	Four days after arrival
Season of 1909:—			
Precooled	6.6	12.7	16.8
Non-precooled	7.5	10.9	15.1
Season of 1910:—			
Precooled	7.5	11.1	15.1
Non-precooled	8.7	12.2	17.5
Season of 1911:—			
Precooled	6.5	12.2	16.7
Non-precooled	8.1	12.8	17.0

Table II. shows the results from comparable shipments of precooled and non-precooled table grapes to New York during three consecutive seasons. No attempt was made to handle these grapes carefully; the ordinary commercial pack was used. The precooling was accomplished by means of a cold-air blast circulated through the cars until the average temperature of the fruit was reduced to a point near 40°F. The figures show that decay was slightly less in the precooled cars, but the differences are not sufficient to warrant any considerable extra expense. A greater reduction in decay was accomplished by careful handling without precooling than by precooling alone.

This is a most important point and one which cannot be too strongly emphasized. The tendency to regard precooling as a means to overcome all of the difficulties which are experienced in transporting fruits is wide-spread, and while we feel that this system of preparing fruits for shipment over long distances is a most important one, and one which will have a very great influence on the carrying qualities of fruit after the grower, the packer, and the shipper have done their share to insure the preparation of the fruit for market in sound condition, precooling must not be depended upon to replace all of these special efforts.

The fruit handling investigations of the Bureau of Plant Industry have been in progress several years. During this time a very comprehensive study has been made of the relationship of handling various kinds of fruit to their behaviour in transit, in storage, and while on the market. This study has been extended to the California orange and lemon, the California table grape, the Georgia peach, the Florida orange and pomelo, and in 1911 investigations were begun with red raspberries in Washington, and cherries and fresh prunes in Oregon. The results of these studies covering a wide range of fruits are consistent throughout and show a very definite relation between the methods of handling the fruits and their behaviour after packing. I will not attempt to give all the data which has been accummulated along these various lines. It is, however, important to present some of the results in order to show how conclusive and how consistent the work has been:—

TABLE III.—FLORIDA ORANGE SHIPPING EXPERIMENTS, SEASONS OF 1910 AND 1911, AVERAGE PERCENTAGE DECAY IN EIGHTEEN EXPERIMENTS IN SEVENTEEN PACKING HOUSES.

	On arrival	At end of 1st week	At end of 2nd week	At end of 3rd week
Careful pick and pack	0.7	1.4	1.7	2.0
Commercial pick, careful pack	2.9	5.3	7.0	7.9
Commercial pick and pack	6.7	12.1	15.3	16.6

In table III, the results from the shipping experiments with Florida oranges during the season of 1910-11 are shown.

The fruit used in these experiments was obtained from seventeen packing houses located in various parts of the Florida citrus districts. The fruit used therefore, was produced under a wide range of conditions and the investigation was continued throughout the entire shipping season. The data is therefore the result of a large number of experiments consisting of a sufficient number of boxes of fruit to place the work on a commercial basis. A glance at the figures and the diagrams, shows the consistency of the general principle expressed above. Of all of the series of oranges picked, packed and shipped by the Bureau workers, the percentage of decay was only 7 per cent. on arrival at Washington, D.C. The fruit was held for three weeks, inspections being made at the end of the first, second and third weeks. At the end of the first week the carefully picked and packed fruit showed 1.4 per cent. decay, while at the end of the second and third weeks, respectively, 1.7 per cent. and 2 per cent. decay developed. Contrast these figures with the fruit picked and packed under ordinary commercial conditions. On arrival the commercially picked and packed fruit had 6.7 per cent. decay, and after holding one week 12.1 per cent., after two weeks, 15.3 per cent., and after three weeks, 16.6 per cent.

RED RASPBERRY HANDLING AND PRECOOLING EXPERIMENTS.

This work was begun during the season of 1911, and records from only that season are available. All precooling was done after the fruit was loaded into the cars. The data obtained were clear-cut and are consistent with the general principles developed with other fruits; they are presented as additional corroborative evidence. This work will be continued and extended until full and conclusive records shall have been completed.

TABLE IV.—RED RASPBERRY HANDLING EXPERIMENTS, PUYALLUP, WASHINGTON, SEASON OF 1911.

	Carefully handled		Commercially handled	
	On withdrawal	1 day after withdrawal	On withdrawal	1 day after withdrawal
	% Decay	% Decay	% Decay	% Decay
4 days in Refrigerator car	0.2	0.6	1.4	12.2
6 days in Refrigerator car	0.3	3.5	7.2	27.6

TABLE V.—RED RASPBERRY PRECOOLING EXPERIMENTS, PUYALLUP, WASHINGTON, SEASON OF 1911.

	Precooled Commercially handled		Non-precooled Commercially handled	
	On withdrawal	1 day after withdrawal	On withdrawal	1 day after withdrawal
	% Decay	% Decay	% Decay	% Decay
4 days in Refrigerator car	2.1	9.5	5.9	16.5
6 days in Refrigerator car	9.1	19.1	15.4	28.8
8 days in Refrigerator car	18.4	35.2	27.4	45.8

It was impracticable to obtain the inspection data after shipment to eastern points. The raspberry crates were therefore held in an iced refrigerator car at Puyallup, Washington, and the lots of fruit were withdrawn after holding periods, which represent trips of 4, 6 and 8 days respectively. The conditions for rapid cooling in the iced car at Puyallup were considerably more favorable than obtain during a transcontinental trip. The car was kept fully iced throughout the season, and at no time was a full carload of fruit on hand. The fruit held without precooling was therefore cooled much more rapidly than would have been the case under actual shipping conditions. It is necessary to take these factors into consideration in making comparisons of precooled and non-precooled crates. It is only fair to assume that under shipping conditions, the decay in non-precooled berries would be higher than shown by these experiments. The point to be drawn from these figures is the consistently clear-cut results from careful handling with this very perishable fruit. The two tables should be considered separately and are not comparable. Only the data obtained from actually comparable series of experiments are included in the figures shown in each table, and the series for the handling and precooling experiments are not the same. The figures for the percentages of decay in the precooled lots do not tell the whole story. The precooled berries presented a much brighter and more favorable appearance than the non-precooled, and the concensus of opinion of all who examined the fruit was that a material benefit resulted from the precooling. This need not in any way detract from the importance of the results from the handling experiments.

CHERRY AND FRESH PRUNE HANDLING EXPERIMENTS.

This work was begun in Salem, Oregon, during the season of 1911. The results are given in order further to emphasize the consistency of the careful handling principle.

TABLE VI.—AVERAGE PERCENTAGE OF DECAY IN CAREFULLY HANDLED AND COMMERCIALLY HANDLED CHERRIES AT SALEM, OREGON, 1911.

	Carefully Handled.		Commercially Handled.	
	At withdrawal.	2 days after withdrawal.	At withdrawal.	2 days after withdrawal.
	% Decay	% Decay	% Decay	% Decay
5 days in Refrigerator Car	0.5	3.5	2.8	10.8
10 " " "	1.5	3.5	12.3	21.4
15 " " "	4.3	7.3	16.0	26.1

TABLE VII.—AVERAGE PERCENTAGES OF DECAY IN CAREFULLY HANDLED AND COMMERCIALLY HANDLED FRESH PRUNES, SALEM, OREGON, 1911.

	Carefully Handled.		Commercially Handled.	
	On withdrawal.	2 days after withdrawal.	4 days after withdrawal.	6 days after withdrawal.
10 days in Refrigerator Car—	% Decay	% Decay	% Decay	% Decay
Carefully handled	0.7	1.2	1.6	2.1
Commercially handled	3.5	5.6	9.3	8.7
15 days in Refrigerator Car—				
Carefully handled	0.4	1.2	2.1	3.7
Commercially handled	7.1	8.8	11.5	16.6
20 days in Refrigerator Car—				
Carefully handled	2.7	3.8	4.7	6.9
Commercially handled	6.8	9.7	19.3	23.3

As in the case of the raspberry experiments, it was impracticable to make inspections after actual shipment and the lots were held in an iced car periods representing trips of ten, fifteen and twenty days respectively. The conditions were only approximately those of a car in transit, as owing to the car being only partially filled, the temperature conditions in the car were more favorable than during shipment with full car-load. The fruit was held after withdrawal from the car, under open market conditions.

Careful handling in the work with cherries and prunes consisted not only in using care in picking and packing, but in grading or culling out all imperfect fruits. The season was very unfavorable, there having been considerable rain during the shipping season, and a large proportion of the fruit was cracked and otherwise damaged. These were carefully culled out as far as practicable in the carefully handled lots; in the commercial packs, little attention was paid to culling out the imperfect fruits.

IMPORTANT FACTORS GOVERNING THE SUCCESSFUL STORAGE OF APPLES.

The importance of cold storage as a factor in the profitable marketing of apples has been recognized for some time, especially in the older settled communities. Its importance has not become so urgent in the districts where extensive orchard planting and development are more recent, but as the large orchards come into bearing in the Pacific Coast districts, a growing proportion of the crop will have to be placed in storage in order to equalize distribution and to lengthen the marketing season. Therefore, a discussion of some of the principles underlying the successful storage of apples is most opportune. The production of this staple fruit has already assumed proportions too large to be sold and consumed during the normal season and with the still larger crops to come as time advances, the problem becomes more and more acute, if we are to avoid alternate seasons of plenty and scarcity with disastrous effects both to the producer and consumer. A steady supply of good fruit throughout the season obtainable at steady and reasonable prices, places the fruit within the reach of the masses, and thereby gives a stability to the demand not otherwise possible. Apples are now practically obtainable the year round. Without some successful means of storage this would not be possible. The storage house has become an actual necessity in the apple industry. The cold storage warehouse must be considered as the ally of the producer and the shipper.

Fruit Storage Investigations of the United States Department of Agriculture.

During the past eight years the Bureau of Plant Industry of the United States Department of Agriculture has carried on an extensive investigation of the cold storage of fruits and especially of apples. From these investigations many important facts and principles have been developed, most of which have had an important bearing on the storage and warehousing of fruits. These investigations are still in progress, as there still remain important problems to be solved. Some fruits have not yet been studied, and furthermore, all sections of the country have not yet been included. Naturally, the first work was done on Eastern and Central Western fruits, and as funds have been provided and experience has been gained the work was extended to the other sections of the country. Last season work was begun in the Pacific North-west, comprising the important fruit producing districts of Oregon, Washington, Idaho, Utah, and Montana.

It has been found that the condition of the product at the time it is stored has a most important influence on its behaviour in storage and the length of time it may be held in good condition. This has reference to the regions where the fruit is produced; to the orchard conditions and treatment; to the stage of maturity of the fruit at the time it is packed; to the care with which it has been picked, handled and packed; to the promptness with which the fruit is placed in storage and cooled. All these factors are under the control of the producer, the packer, or the shipper. The duties of the warehouseman or the cold storage man follow these and have reference to the proper regulation of the temperature of the rooms, ventilation and handling in the cold storage house itself. It is the warehouseman's business to see that the proper storage temperature and proper conditions of humidity are uniformly maintained. A fluctuating temperature—if it fluctuates to a considerable extent—may be most injurious. Another important factor in the successful storage of fruit is the maintenance of uniform conditions throughout the storage rooms themselves. This is plainly the duty of the warehouseman. Where the rooms are improperly piped or insulated the temperature will not be uniform. Parts of the rooms may be too cold, and parts too warm. This is especially true in very large rooms. This does not necessarily mean that small rooms are most desirable and efficient. Quite the reverse. Under proper conditions it is relatively easier to maintain a large room in a uniform condition than a small one, because of the smaller proportion of wall space to air volumes.

It is beyond the limits of this paper to describe the various types of storage houses. There are two classes of storage houses; Common Storage houses and Cold Storage houses. The former are not provided with equipment for artificial refrigeration, cool temperatures in the rooms being maintained by opening the rooms during cold days and nights and closing while the outdoor temperatures are high. Naturally, the temperature conditions possible under these conditions are not as uniform as can be maintained in artificial cooling. This equipment may consist of ice, ice and salt, or of machinery for producing the refrigeration. The Common Storage plants are located on farms, and are operated by the producer. Cold Storage plants are usually located at railroad points, and as a general rule are operated by commercial warehousemen, although some large producers operate their own cold storage plants.

The standard storage temperature for apples has been found to be 32 deg. Fahr., and this temperature has so far proved satisfactory for all varieties with possibly only one exception. This is the Yellow Newtown produced in the Pajaro Valley of California, which holds best at a temperature near 35 deg. Fahr.

The various factors which have been mentioned as having important influences on the keeping quality of fruit products will be discussed in the order named.

Influence of the Place of Production.

There is a widespread opinion that the region producing a variety of fruit has little or no influence upon its behaviour in storage. The investigations of the Department show that such a view is erroneous. A great many varieties of apples have been studied, and these have been obtained from different districts of the United States. It has been found that the place and conditions of production have a material influence on the keeping qualities of different varieties. Moreover, the soil upon which the fruit is produced affects its keeping qualities in cold storage. Differences of from one to three months in the length of time a variety may be held in good condition have been due to the influence of different places of production.

Influence of the Method of Culture.

The methods of culture and care in the orchard are also factors affecting the keeping qualities of the fruit. The character of the tillage, the pruning, the age of the trees and the climatic conditions may be governing factors in the behaviour of the fruit in storage. Large, coarse and sappy fruits produced by young trees do not have as good keeping quality as the same varieties grown on older trees. It has been found, especially under eastern conditions that trees with thick heads and branches which prevent the fruits from maturing uniformly, may yield a large proportion of green, poorly colored fruits, which do not hold well in storage. This is plainly a factor which may be controlled by a different orchard treatment. Opening up the trees in order to give more light and air will materially influence the length of the cold storage season of the product. It has been found also that late cultivation, keeping the trees in active growth late in the season prevents the proper maturing of the fruits. This is not likely to be so important a factor in this region except where climatic conditions similar to eastern humid summer conditions prevail. In irrigated sections the moisture conditions are under the control of the grower. If he irrigates and stimulates growth at the time the fruit is maturing, he will bring about conditions which may result in the production of sappy, poorly colored fruit of low keeping quality. In sections having dry summers, but depending upon tillage for maintenance of proper soil moisture conditions, the effect will be opposite unless cultivation is carefully done. In orchards where cultivation and tillage are not thoroughly done there is likelihood of the trees being under stress from lack of moisture at the end of the dry season. Fruit from such trees has low keeping quality in storage.

Any condition of soil, climatic or orchard treatment which results in the production of abnormal fruits may be governing factors in their cold storage behaviour. These factors are ordinarily not considered in selecting fruit for storage. If they could be taken into consideration, much loss would be avoided.

It may not always be practicable for the warehouseman to consider these factors, due primarily to the conditions of growth and production. Fruit is mostly purchased by jobbers and wholesalers who do not, as a rule, know anything about the history of the fruit prior to the time it is received by them. The only way that loss from deterioration may be avoided in these cases is to keep close watch on the fruit during the season, and to dispose of it before it has gone too far.

A fruit is a living organism, which has a definite length of time for carrying on its life functions. As long as these life functions are active, the fruit remains in a vital condition and is fit for food. After the life processes have become weakened and exhausted, death of the fruit takes place, rapid deterioration results, and the fruit is unfit for food. The vital processes of the fruit go on normally while the fruit is on the tree, unless the tree is in distress. When the fruit is severed from the tree the life process is hastened while the fruit remains at relatively high temperatures, so that when the fruit is picked the ripening and life processes are quickened, and unless some means is taken to control or to slacken these processes, the death of the fruit ensues within a comparatively short time. When the fruit is stored at a low temperature, the vital processes are very materially retarded; they do not entirely cease, but continue slowly, the rate depending upon the character of the fruit and the temperature at which it is held. It follows that when the life processes are materially reduced, the fruit will remain in good condition a greater length of time. This is the principle upon which the cold storage of food products is based.

The low temperature may also retard the growth and development of various forms of decay or rot, due to fungi, which grow upon the fruits and destroy them. Most of these fungi cannot germinate at the low storage temperature (32 degrees F.) but when once started, they continue slowly to develop, and may entirely destroy the fruit in the storage rooms. The most common forms of decay, however, are dependent wholly upon the character of the handling which the fruit receives in preparing it for market.

Other form of decay which are not dependent upon abrasions in the skin to gain entrance into the fruit are dependent upon proper moisture and heat conditions for their germination and growth. By reducing the temperature to a point at which the fungus cannot grow, disease can be held in check.

Under orchard treatment and conditions we must consider spraying for the control of insects and fungus diseases. Where the spraying work is not thorough and efficient a considerable proportion of the fruit may be injured by insects and consequently rendered susceptible to decay. All such injured fruits should be religiously excluded from packages intended for storage. Where the insect or disease injury is primarily not to the fruit itself, it is just as important that the spray work be efficient. Any insect or disease which interferes with the normal vitality and growth of the trees, likewise affects the quality of the fruit. This is a fact well-known to all up-to-date orchardists, but the effect on the storage quality of the fruit is not so well appreciated.

Seasonal Influences.

It is a well-known fact that during unfavorable seasons the quality as well as the quantity of the fruit produced may be affected. In case of unusual drought the man who irrigates has some advantages over the grower who is wholly dependent upon natural weather conditions. Following destructive frosts the crop may be

thinned to such an extent that the remaining fruits are overgrown and sappy, and consequently of low keeping quality in storage. On the other hand fruit produced by over-laden trees has weak storage quality, and a spring frost may thin the crop just to the desired point. Fruit produced under favorable seasonal conditions must be carefully watched during the storage periods, so that it may be sold and consumed before it has deteriorated to any great extent.

Proper Stage of Maturity for Storage Fruit.

The investigations of the Bureau of Plant Industry have shown that fruit which is fully matured and well colored holds better and longer in storage than immature, poorly colored fruits. When the Bureau investigations were begun, the common practise was to pick fruit intended for storage before it was fully mature. A systematic study on a large scale has shown this to be erroneous. Green, immature fruit is subject to scald, and if very green, will shrivel in storage, while the same variety fully matured holds much longer and in better condition. This principle has been found to hold true for all kinds of fruits except pears and lemons. These are apparently the only fruits which are better when picked before full maturity or ripeness, as the term is ordinarily interpreted. By full maturity is meant full color with firm flesh and the seeds fully grown and colored. Over-ripeness must be avoided as much as immaturity. In some sections it is a general practise to allow the crop to remain until all the fruits are fully colored. There is danger when this is done that part may become over-ripe and consequently have low storage, or even shipping quality. It is best, especially with the earlier ripening varities, to make more than one picking, selecting each time the fully colored fruits and allowing the undeveloped to remain. The fruit grown on the outer branches develops more rapidly and consequently ripens first. Much more uniform storage-holding quality can be obtained by keeping these fruits separately, unless the trees are open-headed and there is a uniform development throughout.

Influence of Handling on Keeping Quality.

The Bureau investigations have shown that a direct relation exists between the type of handling and the occurrence of decay in both storage and transit. As has already been mentioned, the common forms of decay are caused by fungi which gain entrance through some form of mechanical injury to the fruit. Fruit is most commonly injured in preparing it for market, in the picking, grading, hauling and packing operations. In general, most growers appreciate that fruit must be carefully handled, but they have no conception of the amount of injury ordinarily done unless extra care is used. In the course of the Bureau investigations many instances were found where growers who had the reputation of handling carefully were really injuring a large percentage of their product through ignorance or oversight. From ten to fifteen per cent. of apples were found to be injured, and in the case of citrus fruits the percentage of injuries was often much higher.

The apple, pear, peach, plum, cherry and grape are far more easily injured than the orange or lemon. The necessity for great care in handling these fruits is therefore all the more urgent. In California all up-to-date citrus growers and handlers use gloves in all picking, grading and packing operations. If this practise does not prevail in Ontario apple orchards it should be adopted, as in this way

many types of injury may be avoided. In the citrus investigations, sand, gravel, dried twigs and dirt in the packing bags and field boxes were found to be responsible for much abrasion of the skin of the fruits, which was always followed by serious decay. The tender skin of the apple and pear is very susceptible to this type of injury. For this reason if these fruits are wiped before they are packed, great care must be used to avoid abrasion of the skin; the slightest scratch or puncture is sufficient to allow the fungus to gain entrance.

The urgent necessity for the greatest care to avoid injury in preparing fruit for storage or shipment cannot be too strongly emphasized. This is the foundation upon which rests the successful marketing of fruits intended for immediate consumption or for storage.

Influence of Prompt Cooling.

As has been mentioned above, a fruit is a living organism, during the normal growth and development of which certain physiological and chemical changes take place within the fruit itself. These changes constitute ripening, as the term is ordinarily interpreted. Up to a certain point, flavor and quality improve and the fruit is considered as ripe. After this point is reached there is a gradual decline, and death and deterioration take place. Flavor and quality are lost, and if the process continues the fruit breaks down physiologically or is destroyed by decay or fermentation. It has been further shown that when the fruit is removed from the parent tree or plant, these life and death processes are materially hastened while the fruit remains at relatively high temperatures. A reduction of temperature retards these vital processes—they go on very slowly in storage; if they were entirely stopped the fruit would soon die and break down physiologically—and gives the fruit a longer term of life. The promptness with which the cooling is done has a material influence upon the length of time the fruit will remain in good condition. The Bureau of Plant Industry investigations have demonstrated that apples placed in storage and cooled promptly hold in good condition from one to three months longer than the same varieties delayed ten days or two weeks, if the temperature is rather high. This point is therefore of the utmost importance, especially with a variety like the Jonathan, which ripens in the early part of the season while the weather is warm.

APPLE SCAB (*Venturia pomi*).

L. Caesar, Provincial Entomologist, O.A.C., Guelph.

First of all, scabby apples can never be sold as No. 1.

Apple Scab or Black Spot, or "Fungus," as it is sometimes called, is far the most destructive apple disease found in Ontario, and occurs in every part of the province where the apple grows. It is not the same disease as the Pear Scab, so common on Flemish Beauty and some other varieties of pears, but is very closely related. Its presence is, of course, most familiar to us in the form of the black spots on the fruit, the skin of the apple always being destroyed beneath these spots. That it attacks the leaves just about as readily as the fruit is a fact perhaps not so

well known to fruit growers. On the leaves it causes at first small, nearly circular areas about ¼ of an inch in diameter and of an olive colour. After a while the affected parts often become somewhat elevated, making the surface of the leaf irregular or more or less crinkled. Before long these spots die. Sometimes there are numerous spots on the leaves. I have seen leaves of crab apple trees so badly attacked on blade and petiole or stem that most of them fell off, and by about the first of July the tree was entirely defoliated. A fresh set soon took their place. Occasionally, but not ordinarily, the tender twigs themselves are attacked.

Loss Caused by the Disease.

The loss comes in the following ways:

1. Scabby fruit must be rejected as culls, or at any rate can never go as No. 1.

2. In moist, warm autumns the scabby areas on apples in a barrel will soon become attacked by a whitish or pinkish mould, known as Pink Rot. This makes the apple not only unsightly but unmarketable. Greenings are especially subject to the rot. Even apart from this disease, scabby apples will not keep so well as clean apples.

3. The scab fungus commonly attacks the stems of the fruit while it is still small, and causes large numbers to fall. Sometimes it is evidently in a large degree responsible for the failure of a crop.

4. By attacking the leaves and killing areas on these it not only interferes with the power of a tree to manufacture food (the food of a tree is manufactured chiefly in the green leaves), but also permits spray injury around the areas where the protecting skin has been destroyed. Consequently the vigor of a tree may be greatly lessened by these combind injuries to the leaves. The following year the chances of a good crop are, therefore, greatly lessened through the failure of a tree to form fruit buds. This is one of the reasons why well sprayed orchards regularly yield larger crops than unsprayed, and are healthier unless injured by over-cultivation or over-fertilizing and consequent winter injury.

Life History of the Fungus.

The fungus which causes apple scab is a very small microscopic plant which, unlike green plants, cannot manufacture its own food but feeds entirely upon other plants, or, in other words, is a parasite. It passes the winter almost entirely upon the old leaves, on the ground beneath the tree, or wherever they may be blown by the wind. Occasionally it may also winter on the twigs. In the spring about the time the leaves are expanding, the diseased spots on the dead leaves by a peculiar device begin to shoot out into the air, in moist weather, tiny little spores which are carried by the wind especially to the lower leaves. These spores correspond to seeds, and like seeds they cannot germinate unless they get an abundance of moisture; hence if the days are bright and sunny they will not grow, but if rain falls and does not dry off for about eighteen or forty-eight hours they will germinate, and begin to enter the leaves. Once the germ tube has worked through the skin of the leaf it grows rapidly and forms many little threads or rootlets as we may call them. From these in a few days a host of little threads burst up through the skin and keep producing, on their tips, crops of countless spores.

These are constantly being blown by the wind from leaf to leaf, and everywhere through the orchard, and get also on the stems of the young fruits, and on the fruits themselves. They are only carried a comparatively short distance, so far as we know. Here again, if given sufficient moisture, they will germinate and produce scabby areas on all these places. It is while the fruit and leaves are still small that the fungus spreads most. Once the fruit is three quarters of an inch in size it is not nearly so subject to the attack. This is probably due to two reasons. First, the skin has been growing thicker, and so is more difficult for the fungus to penetrate. Second, the weather is warmer and brighter, the nights are shorter, and so there is seldom a sufficiently prolonged period of moisture for the spores to germinate.

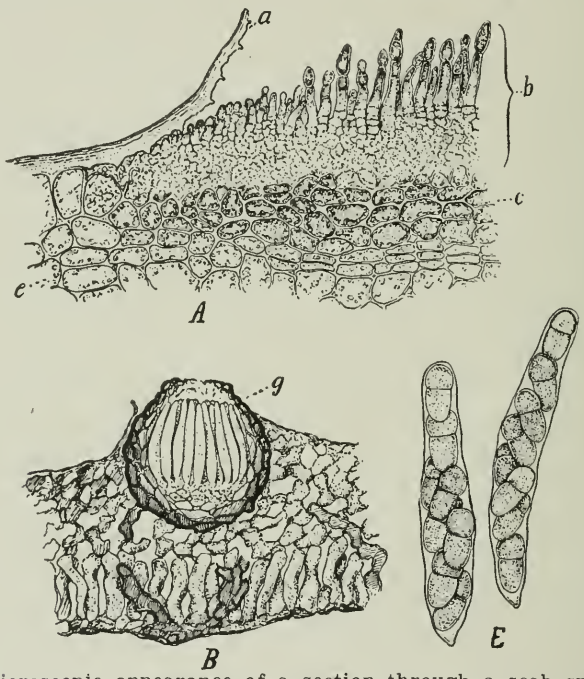

Fig. 1.—A. Microscopic appearance of a section through a scab spot on apple: (*a*) The cuticle or skin broken and raised by the fungus beneath; (*b*) fungus threads bearing spores on the top and with dense threads (mycelium) beneath; (*c*) and (*e*) cells of the apple beneath the fungus

B. Section through a leaf that has lain over winter on the ground; (*g*) spore case containing little sacks in which are spores.

E. One of these spore sacs greatly enlarged, showing several two-celled spores which are shot out from the tip of the case in wet weather. These spores are different from those in A, but start the disease in spring.

As to the time necessary for this, I have had them in the laboratory at a temperature of about 60 degrees F. germinate in between twelve and eighteen hours; at about 50 degrees F. they were a little longer and outside at a temperature varying from a little below freezing to 40 degrees F. they had just begun to germinate in forty-eight hours. It is probable the germ tube very soon enters the apple after beginning to grow. Once it enters it cannot be killed by any spray, hence spraying is to cover leaves and fruit and prevent spores from germinating. From about the middle or end of June until the last week in August there is seldom any noticeable increase in the amount of scab, but with the return of longer nights and lower

temperatures, if there is an abundance of continuous wet foggy weather, as happened in the fall of 1912, we may look for a fresh outbreak of the diseases and should spray to prevent it. The Inky Spot or Sooty Fungus of the fruit is also favored by this kind of weather. Leaves are apparently more subject to this late attack than the fruit, and hence there are always plenty of these diseased to carry the fungus through the winter.

A MEMBER: You say it will develop faster in a temperature of 60 degrees F. than it will at 40 degrees F.?

MR. CAESAR: Yes, it will develop faster at about 60 degrees than it will at 40, and that brings up a very interesting question. It has often been observed year after year that scabby apples develop from the time when the leaves are nicely

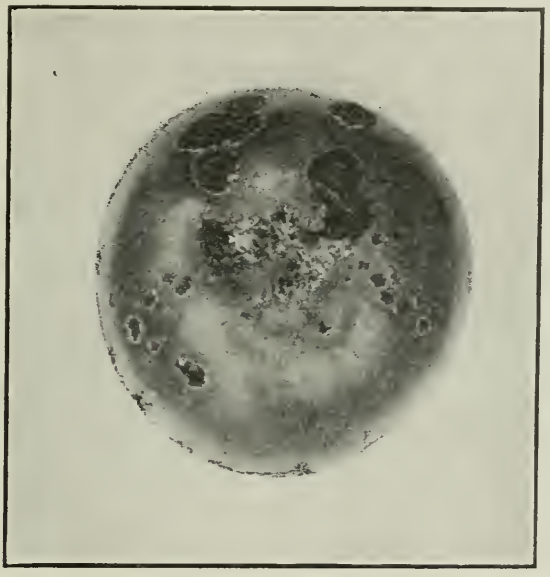

Fig. 2.—Scab on apple.

unfolded and expanding until the fruit is about the size of a grape or say three-quarters of an inch in diameter. After that in most seasons, and in most districts, there is scarcely any new development on the leaves or fruit until late in the fall. That is the average season. The reasons for that, I suppose, are two-fold. First of all the skin of the fruit becomes thicker as it grows, and it is harder for these little spores that germinate to penetrate that skin. Secondly, the conditions for moisture are usually less favorable, because then the days are becoming longer and the nights are shorter and there is more heat and therefore a more rapid evaporation of the moisture that produces conditions that tend to make them.

A MEMBER: What are the apples most likely to be attacked, or are they all equally subject?

MR. CAESAR: That suggests another point here. You all know that Snow Apples are particularly subject to scab, while the Spy is scarcely ever attacked by it, and there are some others. In a journal which published an article on the subject I read that the Ben Davis was not very subject to Apple Scab. What is

the reason for that? I cannot entirely explain that, but I have a theory that appeals to me. I have been experimenting with the structure of the skin of various apples. If you compare the Snow Apple with the Ben Davis, the Ben Davis has a skin one and two-third times as thick as the skin of the Snow Apple. Those who have gone into that a little more fully corroborate what I say. I have read all the works I could get on the subject, and in one I found that others experimenting along this line have given a whole list of apples subject to Apple Scab. The varieties that were immune from attack were in all cases thick-skinned, while those subject to the disease were thin-skinned.

A Member: What effect would plowing the leaves under have, if any?

Mr. Caesar: There is some value in plowing the leaves under, but there will always be plenty of leaves left in fence corners, in your neighbor's orchard and other places, to create the disease. Personally, I do not think it pays a man to try to destroy the leaves in which the plant winters, and nearly all plant path-

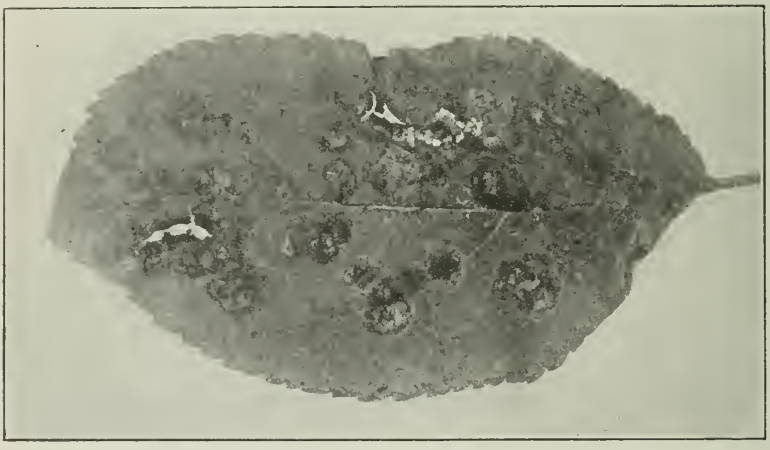

Fig. 3.—Scab on leaves.

ologists will tell you it will pay to do that. In any ordinary season you can control it without taking special pains to destroy all the leaves; you never can destroy all the leaves either in your own orchard, or, as I have said, in surrounding orchards from which leaves would be bound to find their way to your own.

A Member: Would spraying in the growing stage help to stop the spread?

Mr. Caesar: The question is whether it would be of value to spray in the germinating stage and let the spray fall upon the leaves; both the higher and lower leaves. There would be some value in that, but no such value as some would think. But even in this season we could have controlled the Scab in nearly every district by applying the first spray before the leaves burst, and in districts where it was not controlled it was that the first spraying had not taken place before the leaves burst. The first and second of the three applications, as I shall show a little later on, are the ones above all others the most important in connection with the destruction of Apple Scab.

A Member: Would plowing in, say three or four inches deep, not prevent the spread of the disease from the leaves?

MR. CAESAR: Oh, yes, but there are always plenty of other leaves. Of course, I believe in getting into your orchard just as soon as you possibly can, the first day that it is fit for cultivation. Cultivation is the means whereby we conserve the moisture. There is no time of the year when you will have the same amount of moisture in your ground that you have early in the season. Get into your orchard and cultivate it just as soon as you possibly can; that will help your orchard to withstand drought and will also help some against this disease. It is scarcely ever that scab germinates in summer..

A MEMBER: In our section of the country that is the time when I noticed it did germinate.

MR. CAESAR: You can get it, but it depends on what you consider or mean by midsummer. Scab will scarcely ever give you any trouble from about the 20th of June; that is in all these districts. I do not say that statement will hold away down in the St. Lawrence Valley; but in this district and the fruit districts in most other parts of the Province, Scab will scarcely ever give you any trouble from June until the last week in August; the trouble will have been done before that.

WHY SOME VARIETIES ARE MORE SUBJECT TO ATTACK THAN OTHERS.

We are all aware that certain varieties such as Snow and McIntosh are particularly subject to scab, while other varieties like Blenheim, Duchess and Golden Russett are rarely attacked. The reason for this is not entirely solved, but a microscopic examination shows that the cuticle or skin on nearly immune varieties is decidedly thicker than that of the other varieties. For instance, I find the cuticle of a Blenheim about one and two-third times as thick as that of a Snow.

HOW SCAB VARIED IN DIFFERENT DISTRICTS THIS YEAR.

I have had occasion to visit a good many counties in Ontario since the first of August, and everywhere I went have made a mental or written note on the prevalence of this disease. I have also written to a great many persons in other parts as to the facts in their districts, and then have compared the weather reports to try and reason out the cause of the difference in degrees of injury.

In Eastern Ontario, near Morrisburg, where the Snow and McIntosh (very susceptible varieties) grow, well sprayed orchards were nearly clean, at least over 90 per cent. Some poorly sprayed orchards were quite scabby I was told. In Leeds County the orchard sprayed by Mr. Smith, the district representative, was also practically free from scab. In Hastings the orchards of Mr. McIntosh, the representative, were clean; so also were the best sprayed orchards; others were quite scabby. In Durham six well sprayed orchards visited were over 90 per cent. clean; unsprayed showed from about 10 per cent. to perhaps 50 per cent. scab. Three of these clean orchards had been sprayed by Mr. Duncan, the district representative. In Ontario County only two orchards were examined. One sprayed by Mr. Kydd, of the Department of Agriculture, had over 90 per cent. free from scab, the other along side of it, had nearly 99 per cent scabby, and most of the apples had fallen off because of the scab. In Peel and Halton counties many sprayed orchards had scarcely any scabby fruit even on Snow trees. Unsprayed orchards had also in most places very little scab. In Wellington, around Guelph, well sprayed orchards were nearly clean. Unsprayed varied from about 10 per cent. to 50 per cent. scabby. In Lincoln and Wentworth the really well sprayed orchards were nearly free from

scab. In some cases, near Hamilton, there was a late attack of scab on Greenings. Unsprayed apples (Spys, Baldwins and Ben Davis alone examined) had from 5 to 10 per cent. scab. In Oxford County an orchard sprayed by Mr. Kydd was over 95 per cent. free from scab. The neighboring unsprayed orchard ran from 20 to 90 per cent. scabby. Mr. Harris, of Ingersoll, had some orchards almost totally clean; others quite scabby. In Brant County reports came to the effect that most sprayed orchards were scabby. In Norfolk, where the orchard of the district representative was over 90 per cent. clean, the same condition of affairs prevailed. In Middlesex most sprayed orchards had considerable scab, unsprayed were badly attacked. In contrast to these was the demonstration orchard of Mr. I. B. Whale, which was almost totally clean. In Lambton County a few well sprayed orchards were moderately clean, but many were 40 per cent. scabby. In striking contrast to this I have just been informed was an orchard sprayed by Mr. C. A. Good, of Guelph, for the Department of Agriculture. This orchard was from 95 to 97 per cent. free from scab. In Bruce the orchard sprayed by Mr. McKay, the district representative of Bruce County, is over 90 per cent. clean, a neighboring orchard sprayed at the same time by a different man but with a power machine was quite scabby. Mr. McKay says well sprayed orchards are fairly clean. In Kent County well sprayed orchards are nearly free from scab. In Georgian Bay district Mr. Laughland, the district representative of Simcoe, states that as a rule well sprayed orchards are clean; cleaner than usual.

Why Some Counties Were Less Infested Than Others.

From what has been said above it will be noticed that several counties, noticeably Peel and Halton were much less attacked by scab than other counties. I have no hesitation whatever in stating that the reason for this is solely that in the counties where scab was worst there were much more favorable weather conditions for the germination of the spores of the fungus than in the other counties. In Peel there was a moist period sufficiently long continued in May or June—the two most favorable months for scab—to produce a general infestation of the fruit except in specially sheltered orchards or in old unpruned ones where sunlight and air circulation could not act to cause fairly rapid evaporation. In Norfolk, Brant, Lambton, Middlesex and Oxford counties, there were two or three very favorable moist periods when scab could make such headway that every variety subject to it was likely to be infested. Cool, wet weather is known to be ideal for scab development. It is easy, therefore, to understand why some counties were much more affected than others.

Why Many Well, or Apparently Well, Sprayed Orchards Were Scabby in the Worst Infested Counties.

So far as I can see there was no reason for the failure of spraying, if well done at the times recommended in the spray calendar, to control scab thoroughly in any orchard in most parts of the province, but this was evidently not true in Norfolk and some neighboring counties. The explanation is, apparently, that in these counties there was a long period of approximately three weeks between the application just before the blossom buds burst and the one after the blossoms fell—the Codling Moth spray. During this period the scab got a start. Now, so far as scab is concerned the object of the spray just before bloom is to keep the fungus off the leaves and opening blossoms and blossom stems until the next application

can be applied. Usually the period between these applications is only about eight to twelve days. The spray before the blossoms burst in these counties was applied in many cases as early as May the 1st. For five days after this, up to May 7th there was much new growth of leaves and bloom. A large part of this new growth could scarcely be at all affected by the fungicide on the sprayed part. On May 7th the weather turned very cool with severe frosts on the night of the 10th and 11th, frosts which possibly injured somewhat the skin of the leaves and young forming fruits and made it more easily penetrated by the spore germ tubes. Cold weather with very slow development of leaves and blossoms continued up to at least May 19th, when the blossoms had mostly fallen and early varieties at any rate were ready to spray. On looking over the weather reports and one or two diaries kindly loaned me, I find that during this long period between sprays—a period of about three weeks, twice the usual length—the first favorable opportunity for the development of scab, especially on the lower leaves, where it nearly always first begins, occurred between May 14th and 18th, when there was a considerable rain and foggy, dark weather. Under these circumstances many of the lower leaves would become infested, and the affected areas about a week later would in turn be producing crops of spores which the wind would be carrying to every part of the trees and orchard. If then another wet season should come before the spray after the blossoms could be applied, these spores would get a start on the leaves and young fruit which would in most cases be well formed by this time. The weather records show us that such a wet time did come from about May 20th to 23rd, with occasional showers in some cases up to May 28th. These rains made it impossible to get the spray mixture on promptly, therefore, the scab had a chance to get a start on the young fruit and once started it could not be killed. Spraying can only prevent, it cannot cure. The scab spots on the apples could not be noticed at all until early in June, and many would never think of looking for them till the apples were some size. Then alarmed at the sight they would feel sure it was a late attack, and that they should have sprayed again.

This, then, is in my opinion the reason why in many cases scab was bad in well-sprayed orchards. It was a case of getting a start between the 2nd and 3rd sprayings.

Should There Have Been an Extra Application in June?

All the first part of June, up to the 19th, was fine and dry and thus unfavorable for further infection. In some places from 19th to 21st of June there may have been some new development of the disease, but I doubt whether there was much, in fact I have no proof that a fourth spraying in any of the western part of the province did any good so far as scab was concerned. I do not mean that it never would. I should certainly advocate a fourth spray any year in which there is much wet weather in the early part of June after the Codling Moth spray. It should usually be put on about two weeks after this application. In the district along the St. Lawrence Valley I should always spray a fourth time, because there is more moisture there, and the varieties grown are very subject to scab. But let me give a word of warning—do not spray with lime-sulphur on a bright, calm, hot day after the fruit has become half an inch or more in diameter, as you will be almost sure to have severe sun-scalding of the apples exposed to the sun. This makes a very unsightly injury. Choose a dark day or at least a windy or moderately cool one.

Would Bordeaux Have Given Better Results Than Lime-Sulphur This Year?

I find it very difficult to answer this definitely, because very few really good sprayers used Bordeaux. I saw two Bordeaux-sprayed small orchards in Norfolk County that looked cleaner than the other orchards with the exception of the orchard of Mr. Johnson, senior, who used lime-sulphur. I could not get the necessary data on these two orchards to form any sound judgment on the question.

The other day I saw a letter from Mr. Harris, of Ingersoll, in which he states that when he substituted Bordeaux for lime-sulphur for the spray just before the blossoms burst he had much better results than when he used lime-sulphur for all three applications. Unless there is some other simple explanation of this it would appear to suggest that under very unfavorable circumstances Bordeaux may give better results. If any one cares to test it next year, let him substitute the Bordeaux for lime-sulphur on half of his orchard in the second spray, the one just before the bloom. I should not advise him to use it after the blossoms fall on account of the russeting of the fruit. I do not, however, see any good reason for losing confidence in lime-sulphur. I have in bad seasons for scab tested it side by side with Bordeaux and got equally good results. I have sprayed an average of two orchards, old, uncared-for orchards usually, each year for scab, for five years in succession and have never had less than 99 per cent. of fruit free from it even on Snow trees. Mr. Kydd and the various district representatives in their demonstration orchards have been using it, not Bordeaux, and have I believe had unfailing success.

The Importance of Thorough Spraying at the Right Time.

The one thing that has impressed me most this year and for several years is the great importance of spraying very thoroughly at as nearly the right time as possible. You will remember that in Lambton County it was the orchard sprayed by Mr. C. A. Good for the Department of Agriculture that alone had 95 to 97 per cent. clean fruit. In Middlesex it was the orchard sprayed by Mr. I. B. Whale, the district representative, that had a similar result. In Oxford it was the orchard near Woodstock, sprayed so thoroughly for San José Scale, under Mr. Kydd's directions, that had over 95 per cent. clean fruit. These indicate just one thing, namely, that most of the spraying is not really thorough, or else is not applied at the right time. In fact, too many men are trying to cover too much ground with a single spray outfit. I believe in gasoline outfits for large orchards, especially for large trees. You can spray such trees much more thoroughly and easily with these outfits. Keep your machine in excellent condition. Spray at the right time; miss none of the first three applications; cover every leaf and young fruit or opening blossoms thoroughly, never mind how much the tree drips. Do not stop until you are satisfied it is done right, and instead of being discouraged by failure in a single year like this, remember that James E. Johnson, of Simcoe, our most experienced apple grower, says he has never in his life before seen a season when good spraying would not thoroughly control scab. It is not probable if he lives for thirty years longer, as we hope he will, that he will again see another such season. I might perhaps mention here in passing that good pruning, allowing plenty of light and air circulation will help in making it easy to keep off apple scab.

SUMMARY OF RULES FOR SPRAYING APPLE ORCHARDS WITH SPECIAL REFERENCE TO APPLE SCAB.

First Application.—Before, or as leaf buds are bursting. Use lime-sulphur, hydrometer strength 1.030 (1.035 for San José Scale).

Second Application.—Just before blossom opens. Use either lime-sulphur, strength 1.010 or 1.009, or Bordeaux mixture 4-4-40 formula, and to every 40 gallons of either wash add 2 to 3 pounds arsenate of lead.

Third Application.—At once after the blossoms have nearly all fallen (say 80 per cent. off). Use lime-sulphur 1.008 and 2 pounds arsenate of lead to every 40 gallons.

Note.—The second and third applications may begin with early varieties as the bloom on these opens and drops first.

Fourth Application.—About two weeks after bloom falls. Use same mixture as for third application. This should be applied in the St. Lawrence Valley on varieties subject to scab every year but in most parts of the province may be dispensed with, if we have fine, warm weather beginning a week or ten days after the third application.

Autumn Applications.—These should be applied only if the weather becomes wet or foggy and cool, the latter part of August or early in September. Use lime-sulphur 1.008, or Bordeaux 4-4-40.

	Hydrometer reading					
Lime-Sulphur.....	1.030	Commercial Lime-Sulphur.....		1 gallon.	Water.....	9 gallons
"	1.035	"	"	"	"	7½ "
"	1.010	"	"	"	"	29–30 "
"	1.009	"	"	"	"	32–35 "
"	1.008	"	"	"	"	37–40 "

A MEMBER: You spoke of an orchard sprayed by Mr. Kydd in Ontario County. Mr. Kydd is the man who does the demonstration work for the Department of Agriculture. Were the two orchards from which you drew the comparison equally cultivated?

MR. CAESAR: Part of Mr. Kydd's orchard was cultivated, the other part was not cultivated at all.

A MEMBER: What would be the percentage of scab in Peel County?

MR. CAESAR: In Peel County whether the orchards are sprayed or unsprayed, there is not more than 10 to 30 per cent. scab, and the well sprayed orchards have no scab you may say.

Coming down to Niagara district, I heard of three orchards with no scab. Mr. Fred Carpenter, at Fruitlands tells me he sprayed for Codling Moth and his orchard was almost free—95 per cent. free.

In Wellington County, the county in which the City of Guelph is, I examined Snow apples on the open market and found more than 20 to 40 per cent. of scab.

Brant County has a lot of scabby apples: we are coming now to the scabby district. Nearly all the orchards in Brant Count sprayed or unsprayed are pretty scabby.

Then in Oxford, Norfolk, Brant, Lambton and Middlesex we had one of the worst attacks we have ever had. The explanation is merely this: That in the early part of the season, in May and June, there were weather conditions most favorable for the development of scab in the badly infested counties, and in the other counties there were none. There were seasons of wet weather occurring in May in these counties, to come to real facts, that were much more favorable than any seasons of wet weather in any other parts.

A Member: Does the weather make a difference between one county and another from the standpoint of scab; that is, how did it occur that well-sprayed orchards in some counties are free from scab and in other counties are not free from scab, but are very scabby, if you say spraying controls the scab?

Mr. Caesar: That is where men are discouraged. Now let me try to encourage you. I should say in all parts of the Province, with the exception of Brant, Norfolk, Middlesex, and Lambton; with the exception of these counties there is scarcely any excuse for failure to control the scab, except that a man might have been too busy to get the spray on at the time he knew it should have been put on. Real thorough spraying, so far as I can see, in every one of these cases was responsible for 95 per cent. being free from scab.

A Member: Was that the lime-sulphur spray?

Mr. Caesar: Yes, lime-sulphur was used in nearly every case.

Some Exceptions.

In Norfolk, Middlesex, Brant, Lambton and Oxford, in many orchards that I believe were well sprayed and in a number of orchards that were only moderately sprayed there were cases of bad attacks of scab. In all these districts many a bad attack of scab was found on a well sprayed orchard. Now, let us get to the bottom of that. Here I think we have it. I have been consulting the weather charts from all over the Province, and I have some diaries, none of them quite so complete as I would like to get for an explanation of this kind. Now in these counties I have mentioned—Oxford, Norfolk, Middlesex, Brant and Lambton—I find that there was a period from the time of the second application, the application before the blossoms came out, up to the time when the Codling Moth spray can be applied, that is, after the blossoms have fallen, of fully three weeks. We ordinarily have eight or ten days. Here you have a period of the best weather conditions in which any spray can be put on or between two sprays, the one before the blossoms burst, and one after the blossoms fell.

A Member: Was there three weeks between the time the blossoms burst and the time the blossoms fell?

Mr. Caesar: Yes, there was a period of three weeks in this case, in the case of these counties I have mentioned. The first spray was put on about the first of May. Well from the first of May till the 7th of May you had beautiful weather; everything developing; warm, sunny days; blossoms bursting and leaves developing. If you put on your spray on the first of May, followed by five or six days of beautiful weather—ideal weather for developing—you are going to cover all that leaf for a short time only. The leaf develops so rapidly that soon fresh surfaces on which there is no spray are exposed, and they are going to remain uncovered for

two weeks more after that. Then, on the 7th of May the weather turned cold, and on the 10th and 11th you had severe frosts. That frost may have done something to weaken the epidermis and to make it easier for scab to get in. While these frosts and wet weather continued for a period of two weeks everything was at a standstill, and you wondered if your fruit trees were ever going to get any blossoms. If you can get moist weather before spraying comes you have ideal conditions for an outbreak of scab, because you cannot kill the disease once it has penetrated through the skin. Well, on looking at the weather reports I find that on May 14th and 17th, in these counties, there was a decidedly wet season. What would happen? These low leaves lying on the ground, would begin to shoot up from the affected areas spores which would be blown around to every part of the orchard and would first of all attack the lower leaves. They would not attack the fruit just yet, but would go to these lower leaves, and forty-eight hours of prolonged moisture gives them a chance to germinate. Having germinated inside of two weeks' time they are ready to shoot off spores, and crop after crop of spores is ready to be carried all over the orchard from May the 14th to 17th. Then, supposing another rain should come, the spore is going to get to your young fruit, and once it has germinated there it is impossible to control it. Now, let us see if any rain came; look up your records. By the 24th of May there was another decidedly damp season, foggy weather with intermittent rain and fog every day—the most favorable weather for the development of scab. That is the explanation of scab in these counties, and why you have had such a bad attack in these counties compared with other counties. In the other counties there were not a sufficient number of moist periods to allow development; there were one or two periods, there may have been only one, but two periods would do the whole thing. In another instance a man found it almost impossible to get that spray on at just the right time. Of course if a man had say 40 acres, and had not a perfect spraying apparatus, he would find it very hard to cover all his orchard in a short time, and that would give a still more favorable opportunity for the development of scab. I believe when you come down to the district representatives and take the trees of Mr. Whale's orchard or those of Mr. Good and a number of others, that they got on their sprays much more thoroughly and much more nearly the right time.

Another point I might mention. The district representatives say that in these counties I have mentioned the blossoms would not come out so soon as in the others.

A MEMBER: Do you find scab as prevalent in well pruned orchards, and do you consider that pruning helps as a preventive?

MR. CAESAR: Yes, pruning helps in this way. It gives a better chance for the sunlight to enter, and for ventilation to dry out the moisture. Should there have been an extra application in June? I am very doubtful whether an extra application in June for the worst affected districts would have amounted to much. June is generally a fine sunny month, and sunlight is opposed to scab development.

A MEMBER: If sunlight is opposed to scab development, how do you account for the trees being attacked on the sunny side?

MR. CAESAR: The explanation is this, that the scab developed during the wet weather, and when there was no sunlight. I think the belief that an application in June would have prevented the development of the disease is largely based on

erroneous judgment. I have a letter from a grower who says the scab did not develop until the first of September. He says: "If we could have sprayed the last week in August or the first week in September the most of the fruit would have been clean down here and free from scab, black spot, and fungus." So, then, just watch the weather more from the middle of August, and if you find it getting cool with a lot of foggy nights and a considerable amount of rain, then you had better spray your orchards that are subject to scab.

A MEMBER: Can you put on spray strong enough to control that fungus?

MR. CAESAR: Well, I should think it would. Do you know that if you put a scab spore into lime-sulphur, or Bordeaux mixture diluted one thousand times it cannot grow, but of course on a leaf it dries and there is a very small quantity put on in solution. It takes a comparatively weak mixture to kill these spores.

A MEMBER: Does the nature of the soil make a difference?

MR. CAESAR: It will make this much difference. Some soils dry off more rapidly than others, and we have found that cold wet conditions are favorable to scab development.

A MEMBER: Will the Codling Moth spray control it?

MR. CAESAR: Yes, at some seasons of the year, but won't be as effective as lime-sulphur or Bordeaux.

A MEMBER: Would spraying in September affect the apples?

MR. CAESAR: I do not think there would be any danger at all. Let me mention one thing here: Do not put on spray in hot weather, or on a bright day, especially lime-sulphur spray or you may sun-scald the apples that are exposed to the sunlight, and that makes an unsightly disfigurement; that is the effect of spraying on a bright day with lime-sulphur; I think perhaps the same thing would apply to Bordeaux. Spraying on a bright day will cause many of the apples to be sun scalded. You want to spray in the early morning or late in the afternoon when there are no clouds; that is, if you must spray on a bright day, but you should spray, if possible, on a day when there is a good deal of breeze, a day in which there are a good many clouds. The spray wants to be dry before the sun gets on them. It is these quiet, stagnant days, with great heat, especially where there is no circulation of air in the orchard, and where there are a lot of dead air spaces that it would be hard to get the spray to dry.

A MEMBER: Would Bordeaux mixture have given better results than lime-sulphur this summer?

MR. CAESAR: I have found lime-sulphur and Bordeaux mixture to give about the same results.

A MEMBER: Do you know of any orchards sprayed with Bordeaux mixture this summer?

MR. CAESAR: I will give you some of the orchards that were sprayed with Bordeaux. I found the orchards, but I could not find the owners at the time to make enquiries as to the exact times they sprayed, but these orchards I mention were rather cleaner than the neighboring orchards with the exception of the orchard of Mr. Johnson, senior. But I cannot judge from the data, because I cannot tell what this man did; what times they sprayed; what were the conditions

of the bloom. Then, in Brant County, Mr. Harris, of Ingersoll, in a letter, states that where he applied Bordeaux and sprayed just before bloom came out he had almost totally clean apples. He used lime-sulphur for the Codling Moth, but where he used lime-sulphur for all three sprays he had quite a percentage of scab. Now, if Mr. Harris gave both orchards equally fair treatment and the orchard sprayed with Bordeaux is cleaner than the one sprayed with lime-sulphur, the assumption is that in really bad seasons Bordeaux is giving better results than lime-sulphur.

A MEMBER: Would you advise us to go back to Bordeaux?

MR. CAESAR: I think a man who changes suddenly because of any little exception to the general rule has not reasoned things out very well. For four or five years I have been spraying with both Bordeaux and lime-sulphur and I have never had less than 99 per cent. clean with lime-sulphur; I never could beat that with Bordeaux. In most of these instances, in my belief, the main trouble was that the scab developed in the time between the two sprays; they were not able to get the second spray on when it should have gone on—a day or so earlier—and the consequence is that you have the scab developed in spite of any spray you could put on. Still, a man would be wise, if he thinks Bordeaux is much superior, to put a Bordeaux mixture on in the application just before the blossoms come out on half his orchard, and treat the other half with lime-sulphur, and then contrast them. After the blossoms fall I should say use lime-sulphur, because you know yourselves that Bordeaux has done a decided amount of injury in many seasons to the surface of the fruit. I could see that down in your district, Mr. Roberts.

MR. ROBERTS: It injures the fruit in what way?

MR. CAESAR: It gives the fruit a rusty appearance.

MR. ROBERTS: I think that was because I did not spray well.

MR. CAESAR: No, I don't think so. I have seen in some orchards where Baldwins were growing the fruit so badly deformed with Bordeaux that we could not recognize that they were Baldwins.

A MEMBER: We had something of the same effect and we did not spray at all.

MR. CAESAR: That might be; but if you had sprayed with Bordeaux the conditions would have been much worse. You know that in the worst infested districts, with the exceptions I have named, that the orchards sprayed by the district representatives have given 95 per cent. free from scab. In some of the districts of course the men had an advantage in being able to spray just at the right time, and most of these orchards are clean, or 95 per cent. clean.

Spraying at the right time and with thoroughness in the worst seasons for scab will give you excellent results.

I have given a set of rules for spraying apple orchards with special reference to apple scab, but I do not think there is any use of my reading these, you can find them in the report and in the spray calendar.

Now, there is another point I want to touch on. In the press and everywhere else we are all the time hearing that it is getting to be an awful problem to combat all the new pests. I feel like writing a protest whenever I see that in any newspaper. How many new pests in the last twenty years in Ontario have made their appearance? I doubt if you can name one new pest. They only increase

in number. I repeat again that we have had practically no increase in the number of pests in Ontario in the last twenty years. What about our power to combat these pests? We certainly know quite as much as they did twenty years ago. So that instead of men being discouraged with the idea that pests are getting so bad, and diseases getting so numerous, there is not a pest that I know of that we need be specially alarmed about. Peach Yellows and Little Peach are the most dangerous.

A MEMBER: In spraying apple trees do you cover both leaves and fruit?

MR. CAESAR: Yes, cover every part of the fruit and tree thoroughly.

A MEMBER: What about soluble sulphur for San José Scale?

MR. CAESAR: I can only give you my own experience. I tried soluble sulphur on the worst San José Scale infested apple trees I could find in the Niagara district. I took the orchards that had the worst cases of Scale I could find, and the result was that the San José Scale was cleaned out in one application. Ordinarily lime-sulphur did the same thing; that is on most trees, but not on all. But two or three trees are hardly a fair test. I would say, however, if lime-sulphur were used this season and proved effective it would do in any season, as this was a very extraordinary year. I do not feel safe in saying to you men to use this spray next year, because I have to be exceedingly careful in these things. I do not believe in recommending any spray, at any rate for two years, where there may be different climatic conditions. I think you will find that lime-sulphur will give good results as a rule, but it may burn in some seasons.

A MEMBER: What proportion do you use of soluble sulphur?

MR. CAESAR: Well, I have used as much as 10 pounds to 40 gallons of water, but I find that 1¾ to 1½ pounds to 40 gallons would probably be plenty.

A MEMBER: I used 1½ pounds in a solution and it burned considerably.

MR. CAESAR: That was in August or July?

A MEMBER: Yes.

MR. CAESAR: It is always wise if you are spraying in August to weaken the spray.

A MEMBER: Would the same thing apply to lime-sulphur?

MR. CAESAR: It all comes down to the same point. We do not feel like recommending a spray until we are dead sure of it.

A MEMBER: There is one point I wanted to bring to your notice. In an orchard of Greenings that was scabby, some trees were 75 per cent. scabby and others were 75 per cent. free from scab. How do you account for that?

MR. CAESAR: Well, I don't know. If I were in your orchard I would possibly be able to help a little. The one tree was perhaps much more sheltered than the other by some neighboring tree, but I really could not tell unless I was in the orchard.

A MEMBER: I had the same experience with my Baldwins. My Baldwins were particularly clean except one tree. That was in the west end of the orchard, and the tree next to the one affected was out so that the tree affected was particularly isolated; that was the worst tree I had in my orchard.

MR. CAESAR: Which tree bloomed the first?

A MEMBER: Well, the tree affected may have bloomed the first.

MR. CAESAR: The trouble probably was that the scab was there, and got too far on after your first spray. Here is a peculiar thing about that. You cannot expect to cover everything with spray. Supposing you have that leaf covered, and the one next to it is not quite covered; if you have plenty of moisture little by little the spray will be disseminated over the rest of the leaf, and will help to prevent an attack of scab on the parts not covered; so that if you did get real spraying like these district representatives did on say that large leaf here it might break out again. If you can prevent the first attack of scab you may possibly prevent any other attacks. The second attack comes from leaves on the trees that have not been sprayed, more than from the earth. I feel if we had time it would repay us to supply the scab mixture and see the spraying done, for every year we have got 99 per cent. free. But let me say to you: Go on with your investigations; when you have got 99 per cent. free you know you are doing the work properly, and cannot expect more than 99 per cent. I have had trees 99 per cent. scab, and after treating them I have had 99 per cent. free from scab.

A MEMBER: I sprayed an orchard in Norfolk County with Bordeaux, and got 97 per cent. free with that mixture.

MR. CAESAR: Yes, and last year you got 97 per cent. free with lime-sulphur.

A MEMBER: There is one orchard owned by a neighbor of mine. He had his place this year perfectly clean, while a man about two miles north of him had his orchard so badly affected that his Snow apples were not fit for packing.

MR. CAESAR: In making these comparisons, I would have to know the conditions under which the orchards were treated; at what stage of the bloom; the nature of the soil; the weather conditions, and, better still, I would have to examine both orchards personally, otherwise I could not answer questions like that. You would have to have those particulars in order to form a judgment. One thing I can say. Mr. Johnson has told us he never saw a season like that in Norfolk, so there is great reason to feel hopeful about the future, and try next year to do our spraying better, and do not try to do too much with too little machinery. Spray just before the blossoms burst, and after the blossoms fall, about ten or twelve days apart, and if you expect a shower put on another application. If you have done your spring spraying well, you will be safe then until late in August.

THE FACTORS WHICH ENTER INTO THE CHOICE OF VARIETIES FOR A COMMERCIAL PLANTATION OF APPLES.

PROF. J. W. CROW, O. A. C., GUELPH.

I would like to broaden out somewhat from the subject as outlined by the chairman, although the subject as it appears on your programme is of my own choosing; but the question of the choice of varieties is only one of the factors which enters into the situation, and which requires careful consideration. I feel that the choice of varieties is one of the most important, probably the most important, question which comes up for consideration; because other matters may be changed

or modified during the time you are caring for your orchard; but it is not so easy. In fact it is impractical for the most part to change your variety if once started, and the change itself has such an important bearing on the yield and of course the price, which suggests our making it the first question requiring to be settled. Now in discussing the question of variety, we can take up any one variety, or we can take up the problem in a broader sense if you like—the question of fruit growing. You might discuss it, I suppose, under six heads.

First of all, anyone who is looking towards fruit growing as a means of making money will consider the supply and demand in general.

Secondly, I think you should look into the cost of production. That is something we have not paid much attention to so far. But there is something which I think is very important. Next to that comes cost of marketing. I hope to be able to say something on these three points: Supply and demand; cost of production; and cost of marketing, not alone with fruit growing in general, but in connection with varieties in particular.

First of all to take the subject of supply and demand in apples. What I wish particularly to say to you may be of a somewhat wider application than apples alone and may refer to peaches. There is rather a noteworthy fact in the case of peaches. Taking the Niagara district as the centre of peach production, I think it would be quite correct to say that the Niagara district has not experienced what you would call a real case of over-production for a good many years. I think probably it would not be out of the way to go back as far as 1896, to find the last real case of over-production, or real glut on the market. Now, that point is of interest here in this connection: it shows us, I think, that in the increase of acres of peaches planted, consumption has increased in the same way. We do not realize sometimes that the extent of market within our reach has increased probably in almost the same proportion as the acreage and crop production. Now it seems to me an important fact that the markets have extended sufficiently to take care of the increased production. Under any ordinary conditions we will say with the staple market, or market of biggest size, there would be a cycle of over-production in peaches that would come around about every ten or twelve years. There is a cycle of over-production which can be traced in every farm product or food product; a period of low prices and a period of high prices; high production followed by a short crop. In peaches we have gone for seven years without a sign of it. We have signs of it at the present time, but part of the trouble at the present time, I think, is due to other causes. For instance, referring further to the field part of it, the trouble in the case of a too large peach crop. It is due to the fact that so many peach growers have planted very largely of varieties that ripen in what you might call the Elberta season—within a week or ten days at the outside. Now that is simply, I think, a mistake in the choice of varieties; the planting of such a large proportion of varieties that ripen at the one time. The fact that peaches have gone to waste as we see them in the Niagara district, is not the result of over-production at all, in certain cases it means simply that there are too many peaches ripening within a given period of time. It is a very difficult thing to handle all the peaches that come on the market within a week or ten days, there are so many. So far as over-production is concerned, I do not think we have had over-production in peaches in the Niagara district since 1896, and that fact under the conditions is very gratifying.

Taking apples, the case will be somewhat different. In apples we have first of all to distinguish between two classes of trade. First of all in the mind of the average consumer is the dessert apple—the high-class dessert apple. Then we have on the market a large number of varieties which cannot be classed higher than second grade. Now you are, of course, quite aware that the price of these two classes of apples shows quite a margin in favor of the high-class dessert apple. Now, personally, I have not the slightest fear of an overproduction of high-grade apples. For instance, take Northern Spies; there never was a time and never will be when we will get enough first-class Spies. In Snows we have never had too many, in fact we have never had enough first-class Snows or McIntosh, but I do expect to see the time, and that probably before very long, when we shall have too many Baldwins, no matter how good they are; too many, that is, in order to get satisfactory prices. I do expect to see the time when we shall have too many apples of what we might call second class. Now in that I would include not only the second grade varieties, but also the second grade of first class apples. The No. 2 Spy comes into about the same class of trade as a No. 1 Baldwin; sells for approximately the same price; goes to about the same class of trade. In saying that I quite expect to be called up, and to have my opinion questioned, but I do feel perfectly convinced in my own mind that we may look for periods of settled low prices, and that probably very soon, for the second grade of apples. My argument is based on these facts: If you will take the list of varieties sold by nurserymen you will get a pretty fair indication of the extent to which each variety is being planted, and you will find that for two or three years past the Baldwin has been planted in larger numbers than any other variety in this province. Previous to that time we planted more Stark and Ben Davis types than any other kind, so we can look for a very large increase in production of these varieties. At the present time some nurserymen tell me they are selling more Spies than they are Baldwins, but in general, I think, there are more Baldwins being planted this year, and at the present time, in the Province of Ontario than Spies or any other one variety. That means that within the next ten or twelve years at the outside we will have coming into bearing a very largely increased acreage of that variety. Personally I would not advise any man to plant Baldwins, for the simple reason that I think there are enough planted at the present time to more than supply the demand for that grade of apple. I do not put Baldwins into the first grade of apples. There are other varieties which might be discussed in that connection. For instance, the Ben Davis. There are some parts of this Province where the Ben Davis is still the leading variety planted, and where it has been the leading variety planted for a number of years. In Northumberland County and along the north shore of Lake Ontario the Ben Davis is being planted at the present time, I think, more largely than any other variety, and has been the leading variety for a number of years. I do not think it is a wise move. If a man wants to make money in that part of the country, wants to make the best money out of apples, he would do better to choose some other varieties.

A MEMBER: I think that men in that district will tell you that the Ben Davis has made money for them.

PROF. CROW: Yes, but some other variety would have made more money for them. The Stark is another. Quite a number of men are recommending the planting of Stark, because they claim it will pay on land where other varieties will not. That may or may not be wise. At the same time I do think that the

Stark is not an apple which will command the best price; it does not go into the first class trade, and it goes into a class of trade where we can expect low prices. If I were planting a commercial orchard of apples I do not know of any section of the Province where I would include the Stark in the list, as other varieties make more money.

In connection with this question of supply and demand it is difficult to get actual figures on the matter. You know, of course, the usual difference in price so far as No. 1 Northern Spies and Baldwins are concerned. Of these two classes the grower gets more for a barrel of Spies, and the consumer pays more than he pays for a No. 1 Baldwin when he buys that variety, and there is quite a difference in price all the way through. The extent of the demand for the high class apples is still harder to get. At the present time I am told that first-class Northern Spies, and first-class Snow apples are selling in the cities of Montreal, Toronto, and Ottawa, at from $5 to $7 per barrel, and the price is sometimes a shade higher than that. We all know there is a class of trade which will pay a higher price for a good article; there is a limited class of trade which will pay almost any price for an article that satisfies. There is no question in my mind at all that our markets for many years to come will take all the Spies, Snows, and McIntosh we can grow, provided they are good—and they will take them at good prices. I would feel perfectly safe with any one of these varieties from a commercial standpoint, whereas I would hesitate to plant certain other varieties, some of which I have named. I do not know to what extent McIntosh will turn out to be a satisfactory apple for the Province of Ontario, but the indications are that it will become suited to more than our fruit districts. It is a variety that has proven very well adapted to grow in many districts; in fact, it seems to be an apple that will thrive in a pretty wide range of territory. As to its productiveness it is in the same class there, I should say, as the Northern Spy; that is to say, it is not one of the heaviest cropping varieties. I do not think that on an average it bears so well as the Snow, from what I have seen and heard regarding it. But that point regarding locality requires rather careful attention at this time.

Now, I have referred sufficiently to the question of supply and demand. I do not know what your ideas are on the question. There is one more point I would like to refer to before I get to the question of yield of apples, and that is the new arrangement which has come into effect as between Canada and the United States by the removal of the United States tariff. If you are at all familiar with New York State, and other rich apple producing districts of the Eastern States, you will know that the class of apple of which they grow the most is the class I refer to as second quality. That is to say, they do not produce, so far as I have seen, a large proportion of apples which can or which will compete with our first class Spies, Snows, and McIntosh. I may not be correct there, but my knowledge of the situation leads me to think that in the matter of tariff arrangements which might be made between the two countries we have the United States market now available to us for apples. Whatever arrangement may be made in regard to throwing down the Canadian tariff wall I do not know. But at the same time the Eastern United States do not produce a large proportion of apples of the same class, and same value, as our first-class Snows, Spies, and McIntosh. The leading apple in the New York State is the Baldwin. By long odds it is the leading variety grown, and that is creating a contingency we are going to have to face. We will find it more than difficult in a year of large production to sell our Baldwins in the United States, or even in our own market in the face of their competition;

whereas, if the American market is thrown open, and there is no reason why it should not be, I think there will be an auxiliary market for No. 1 first-class Snows, Spies, and McIntosh. I would not expect to find a market there for many of our other varieties.

In regard to the question of the cost of production. It does occur to me that any man who is going into the business of apple growing at the present time ought to go rather carefully. I think the boom is past. That is to say, the greatest wave is past and the market is going to subside now. The market conditions in the future, say in the next ten, fifteen, or twenty years, are going to be practically about the same, with more severe competition than we have had so far. It has been pretty easy money so far. I am not thinking of the men who have apple orchards at the present time. I am thinking of the men who are planting apples; it will take ten years to get these trees bearing; the situation in ten years' time may change in several very material ways. The man who is planting apples at the present time ought to study the question, I think, very carefully, and I have sometimes, more than once, hesitated to advise a man to plant apples unless I knew he was the kind of man that was going to do the thing right—use the latest methods, and follow the thing right through from the start properly.

There are one or two points which come to my mind in regard to the cost of producing apples. First, the quantity of each variety and the number planted. One important point for the Ontario apple grower to bear in mind is that the minimum quantity we should think of in planting varieties, in regard to apples, is a carload of each variety. Of course, where a man is shipping his apples through a co-ooperative society, and where the association does the assembling of varieties in carloads, a man may, of course, grow profitably a smaller amount, but the future of the business from now on is carloads of each variety so far as possible. Our competitors in Western Canada and in the United States are working on the carload lot principle straight through; they can put up carloads of any variety they have. We have to meet them in the western market.

Now, I do not know what is the best size of an apple orchard for a man to plant. I would hesitate to advise on that subject. But at the same time I feel that we have reached a point in the Ontario apple growing where a man who is going into the business at all ought to go into it on a moderately large scale, at least when he is by himself. If he is outside the assistance of a co-operative association he could, I think, handle 40 acres to better advantage than he could 20, and he might find 50 or 60 acres would mean more profit to him on the money invested than a 10, 15, or 20 acre orchard. I mean to say that the equipment that will handle 20 acres will handle 40 acres. The labor required to handle 20 acres in the rush season, of course, will not handle 40 acres, but you can get better value out of your labor and equipment on a large acreage. There is, of course, a limit in size. You do not want to have a larger acreage than you can properly pick. At the same time I feel that the small orchard is going to be subject to very strenuous competition, and the man who is producing apples in a large quantity will make more money. That applies to individual varieties and also to the orchard collectively, taking all the varieties in the orchard.

Then there is another item which enters into the cost of production, and that is the distribution of varieties. One of the most difficult points in farming, so far as I can observe, is this: To distribute evenly throughout your entire year the labor you employ; the most important item which enters into the cost of production of any crop is labor or wages. Where, of course, the farmer charges a salary against

the farm for his management of it in addition to the regular wages, that will make a difference in the cost of production as usually figured. And another point, you should not forget that horse labour costs just as much, or more, proportionately, than man labour. The most important item which enters into the cost is the wages of labour. I am speaking now of man labour entirely, not with equipment such as horses and machinery, and I have seen very few farmers who have been successful in distributing the labour throughout the year; there is the most difficult point. In some lines of farming it is a very difficult matter, in apple growing especially. Apple growing is carried on ordinarily at seasons of the year when a large amount of help to handle other crops is required. The way to get over this, and this is the case to which I have referred already in connection with peaches. There are some men who have planted 75 and 80 per cent. of Elbertas, while other men choose varieties which distribute labour of handling over the season. In any place it is possible to distribute the labour of field crops over two months instead of trying to crowd it all into two or three weeks. A good many seem to have the idea when they are going into apple growing that the proper thing to do is to grow one variety of apple only. I do not agree with that. In the first place, a large orchard of one variety of apples necessitates too much labor and too much rush to get the crop off; it is impossible sometimes. If you are going to grow a large acreage of apples you want to spread out your labor and you will reduce the cost of production. In apples the labor harvest may be spread out by starting in with earlier varieties, such as Duchess. In certain districts there is no better variety to plant. In the northern districts where you have good facilities for reaching, we will say, the large markets of Ontario and the markets of the west, there is an excellent opportunity in the planting of Duchess apples. Southern Ontario can put an early apple on the market ahead of apples from any other locality in Canada. We have the Northwest markets, and large markets in Ontario and Quebec asking for early apples. At the present time there are men even in the middle section of Ontario making an excellent profit out of Duchess. In the future, I think they are going to feel probably the competition of the southern counties more, but I think that in some districts of this Province the Duchess would be the most desirable variety. Then the other varieties that follow the Duchess in order of ripening—of course the list is subject to change according to locality and according to your own choice—would be Alexander, and Wealthy if you like. Wealthy, however, is an apple which must be thinned in order to get the best results, although we ought to thin everything I believe; then Snows and McIntosh, and before you get through your winter varieties, Greenings, Baldwins, if you still insist on planting them, and Spies. So far as I can see you will find with that arrangement of these varieties you do not need to start with Duchess unless you like, but you will find that a choice of varieties of that kind will distribute over a longer period of time your labor of picking, and thereby greatly reduce the cost of growing apples. We figure the cost of production at so much per barrel, and you will be surprised if you just take a paper and pencil and figure out the difference in cost in connection with the time compared to, we will say, the cost of handling a crop which ripens gradually, separately, and at different seasons.

The next important item entering into the cost of production is, so far as I can see it, the use of fertilizers. The most important item which enters into the cost of production is the yield or crop secured. Now, that depends of course, on varieties, some varieties are more prolific than others; it depends as

well on some other matters, tillage, spraying, and pruning and so on, and it depends on the use of fertilizers. In this connection I have come across recently some figures which interested me greatly, and which to my mind had an important bearing on the agriculture of the Province of Ontario, and to a no less extent on the fruit growing of the Province of Ontario. Prof. Hopkins, of Illinois, interviewed by letter some of the leading authorities on agricultural matters in England, Germany, The Netherlands and France. He put the question to them in this way:

"Statistics indicate that crop production, field crops of course is the crop production of your country, has increased during the last century from 80 to 100 per cent.; what proportion of that increase is due to the use of seeds; rotation of crops; improved tillage and fertilizers?"

What, supposing you were asked that question, is most likely to be the answer? And just in this connection, which one of these two things, tillage or fertilizers, if you were asked that question in regard to the increase of fruit production in the Province of Ontario, would you say was responsible for the greatest increase? The answers given—and they are given by responsible authorities, some of the best men in Europe—put good seed as being responsible for from 5 to 10 per cent. of the increase. The rotation of crops in most cases has not improved and not varied to the slightest degree in the last 100 years; it is not responsible for anything; the tillage methods are estimated to have increased the yield in some cases 10 per cent., in some cases 15 per cent. But for the most part the authorities consulted stated that the methods of tillage of farm crops in Europe have not improved to any appreciable extent in the last 100 years. Now, here is where the most interesting point comes. They stated that from 50 to 70 per cent. of the increase in crops is due to the increase in the use of fertilizers. That does not mean only commercial fertilizers. It means also that they include with the commercial fertilizers which are largely used, farm yard manure, and some of them have also included with them the use of legumes with farmyard manure for the purpose of increasing the supply of plant food. They used red clover for the purpose of enriching the land, and that comes in as part of the fertilizers, you see. But from 50 to 70 per cent. they state of the increase of crop is due to the increased use of fertilizers: commercial fertilizers and stable manure, with of course such crops as legumes thrown in in addition. Now, to my mind there is a hint as to the conditions which are likely to arise say in the Province of Ontario. I do not know to what extent that will be eventually worked out in field crops in Ontario, but I do know that without exception the men I have come across in fruit growing who get large crops of fruit and get them annually, are men who are using the largest amount of fertilizers. That statement is positive, and I feel that I can be positive on that point. I believe that the men who are getting the largest crops of fruit in the Province of Ontario, and getting them annually, are the men who are using the largest amount of fertilizers. I do not mean to say it is the men who are using the fertilizers properly, but using the largest quantity. As an instance of that I would like to give you the practice of one of the fruit growers in Ontario. I will tell you what he uses. This is Mr. George A. Robertson, St. Catharines, and the crop he uses this on, the crop to which I am referring, is one we ordinarily think of as not requiring much fertilizer. We think of cherries as a crop to be put on poor land, we do not think often of the necessity of feeding a cherry crop. This is what Mr. Robertson uses on only three acres of cherries: 600 pounds of bone

meal; 200 pounds of muriate of potash and 17½ tons of ordinary barnyard manure. Mr. Robertson can show you in dollars and cents the result of using that fertilizer; there is no question about it. Any man who can get 2,500 baskets of cherries off three acres is not doing so badly; he is getting his money back. I am positive that this is one of the most important points.

A MEMBER: Is that over the three acres?

PROF. CROW: No, that is the quantity per acre; 200 and 600 per acre. Now, I could give you other figures from other fruit growers right along the same line. The men who are getting the crops are the men who are using fertilizers. It is quite apparent, I think, to me it seems apparent, that many of our fruit-growers have reached a point where they cannot improve on their tillage methods. A great many of them are already, I should say, almost perfect in methods of tillage and general cultivation; also in regard to spraying and pruning. They have got those matters down now to a pretty fine point, and generally not capable of much further improvement, but I do not find that many fruit growers are using fertilizers to any appreciable extent. Now, when I speak of fertilizers I do not mean to say anything that he may use indiscriminately, I mean to say if a man is going to start out to use fertilizers he requires a certain amount of knowledge if he is going to do it intelligently and use the right material in the right proportion; that requires some little study. It would not do for him to apply barnyard manure and nothing else; that might be of value, but it is not the point I have in mind; it would be possible to overdo the use of barnyard manure. I was very much interested on noticing a week or two ago in the *"Weekly Fruit Grower,"* a farming paper published in Grimsby, a statement to the effect that in this season of short apple crop the growers are getting more money for the crop, and that crops turning out well will bring more money to the fruit grower than last year's larger crop. That, to my mind, is interesting, in that it indicates something which is frequently observed in connection with farming proceedings. I do not know that we can say that the value of a short crop is greater than the value of a crop in a good season, but it would appear that there is something in that point. What I mean is this. Statistics show that where the whole crop increases the total value of the crop goes down, while where the crop is short it is worth more money to the grower individually and to the country. What I am getting at is this, that so far as the individual fruit grower is concerned what we want to get is a crop when the other man has not got any, because a crop when everybody else has it is worth less money. If we can manage in fruit growing parts to be with a good crop when the other man has not got it we are a long way ahead, because you know in the present case, the man who has got a crop of apples this year is going to get the very best price. Supposing that the fruit growers advance in their methods, and I am looking forward to the time when the crops will be more uniform, they are getting more even every year and they are going to continue to improve in this respect every year, and there will not be the shortages we now hear of. But it is the clever men who take advantage of these conditions. Take the peach crop. Peach growers have certain advantages in that peach land is more restricted in area than apple land. Now, a number of peach growers have these matters, I think, under excellent control; they have the business down to the point where they can and do regulate the production of their orchards annually; that is to say, there are men you can almost bank on having a crop of peaches every year.

A MEMBER: I have got pretty even returns for some years.

A MEMBER: Yes, but you could not lay that down as a general rule, for there would be some who would have no chance at all of doing that.

A MEMBER: Yes, I think if they tried hard enough they could all get there. I think the apple grower stands as good a chance as the peach grower.

PROF. CROW: I am quite convinced of that. It is possible, I believe, by the use of proper methods, and the judicious use of fertilizers. And another thing that comes in here, in the regular crop handling, is the practice of thinning. Now, a good many people are highly amused when you talk of going all over a tree in June or July and picking off all the surplus apples. I remember the chairman of a meeting in Lambton County laughed outright when I spoke of thinning by picking off the surplus apples; that amused him immeasurably, and he thought it was pure foolishness. I am firmly convinced it is one of the most important things in orchard practice so far as handling and the value of the crop is concerned. If we allow an orchard to overbear in one year we simply get a few apples on the next year's crop. It is bad orchard practice to allow the trees to overbear. We should never allow it. A moderate crop in one year is a pretty sure guarantee of a greater crop the year following if conditions are right.

Now, I think that probably I have covered most of the points I enumerated. There is, however, one point I would spend some time on, and that is the last point—the cost of marketing. There is food for thought in the question of the cost of marketing. There are some men here who are connected with the co-operative associations who can give you figures which will show that by working together it is possible to reduce the cost of marketing; simply to reduce the cost of selling. We are working very rapidly towards that end. The co-operative associations have progressed this year, and I have no doubt they will continue to progress. There is one thing which may not be in order just here, but which stands out prominently. Probably we fruit growers do not see it quite as clearly as we might, for if we did we might be able to get the other fellow to see it to the benefit of all concerned. There have been figures published recently showing the cost of marketing peaches under ordinary conditions, giving figures also showing what had been accomplished by individuals from shipping out their carloads to, say, any point like Berlin. Here is what these figures show. A man at Grimsby gets an order at 30 cents a basket at the station; it costs us 4 or 5 cents to bring that basket to Toronto; another 5 cents commission, that will bring the cost here to 40 cents laid down in Toronto. Now, you trace that basket of peaches to the retail store, any one say in Toronto, and you find the retail price is double or more than double what it costs to lay it down here: if it costs 40 cents to lay it down in Toronto the retail price will be 80 cents or a dollar, and if it costs 80 cents to lay it down here the cost retail will be higher. The cost of marketing lies more on the side of the consumer than it does on the side of the grower. We could by co-operative effort reduce the cost to a certain extent, but probably 60 per cent. of the ultimate really retail selling price takes place on the consumer's side of the fence. I simply want to point out this problem for the benefit of the consumer. I hope to see the time when the consumers in our cities will take this matter up and cut down the cost of marketing on their side. I know you would be immensely interested. You no doubt are acquainted with the work that is being done in some big cities across the line by Women's

Clubs simply to reduce the cost of marketing. In Los Angeles the women found there were no open markets in the city, strange as it may sound. They started an agitation with the results that three markets were supplied, and the dates fixed for the opening, and on that date 2,000 women went down with their market baskets, but nobody came to sell; the farmers did not show up. They found out what had happened, for the wholesalers of the city had sent men and wagons to the routes leading into the city to waylay the farmers as they came in, and they bought them out or jollied them so that they went home ashamed of themselves. The women found out what had happened, and they simply hired automobile trucks and automobiles and sent these conveyances right out to the farms and truck gardens and brought the loads right into the market, and it was not long before they had three good markets in that city. They brought all other expenses down in the same way. I would like simply to point out that a great deal of the high cost of living is on the consumer's side. They blame it on the farmer, and say the farmer is reckless and exorbitant in his charges, etc., but the larger portion of the expense of marketing farm produce takes place on the consumer's side of the fence.

A MEMBER: There is a point here in the comparison of two orchards, one belonging to Mr. Stewart and the other to Mr. Robertson. Now, apparently both orchards are under the same conditions and receive practically the same attention. The orchards are in close proximity. Mr. Robertson has always a splendid yield while Mr. Stewart has only a fair crop. Can you explain that, or do you know the orchards? What would you say was the cause of failure on the part of the poor orchard?

PROF. CROW: I do not know, what do you use as fertilizer, Mr. Stewart?

MR. STEWART: I use manure sometimes, and the very best of commercial fertilizers; I use manure every year. Mr. Gregory is here and he has an apple crop which has been regularly good for the last few years. What do you use, Mr. Gregory?

MR. GREGORY: I use manure, barnyard manure.

PROF. CROW: No commercial fertilizers, Mr. Gregory?

MR. GREGORY: No commercial fertilizers.

A MEMBER: Now, the other question was as to the cost of handling the crop. A year or two ago someone asked me about the cost of handling the crop and at that time we had quite a conversation. The question has come up before, but just for the moment I forget. I thought for a moment, and then I said: Well, I understand that boxing the apples has reduced the cost of handling considerably. A great many large growers have boxed all their winter apples this year. Mr. Johnson has boxed his apples this year. We have found that apples carry better in the boxes. The three past seasons we have boxed practically all our apples (winter apples) and the cost of packing a box of apples is 5 cents, that is wrapping them; 5 cents a box we paid our girls. Perhaps we paid them too much for they made $4 per day. At first when we started to pack in boxes we had a great deal of difficulty in getting girls. We assured them we would give them one dollar a day, and as much more as they could pack at 5 cents a box. They became very expert and packed 60 to 80 boxes a day, wrapped and packed the

fruit. One girl went as high as 80 boxes in 9 hours. The complete cost of handling, I think, to nailing down the boxes, in the cars costs 40 cents a box f.o.b. That will give you some idea of the cost of packing boxes.

PROF. CROW: That is the cost of handling from the picking to the car?

A MEMBER: From the picking to the consumer. That includes the cost of paper and everything else?

A.—No, not the picking, but as far as the packing is concerned.

A MEMBER: It includes grading?

A.—Yes. Sorting, wrapping, the paper, hauling to the station. I have five or six wagons hauling apples to the station and that way perhaps it may cost a little bit more.

A MEMBER: In supplying floors for the cars to ensure safety in carriage, what does that cost?

A.—Eight dollars a car. Every box is laid on its side so as to prevent them from bruising which, I believe, is the practice of the western apple growers. Everything included costs 40 cents. Forty cents will more than cover the complete cost per box from after picking to the time they are placed in the car, in fact I believe 37 cents is about right.

A MEMBER: Do you find Snow apples a good annual bearer?

PROF. CROW: As a rule they bear better perhaps every second year. I have known certain cases where Snow apples and even Spies are bearing annually under good care. For instance, I was in an old orchard this year, and saw the finest apples I have ever seen, and the owner showed me Spy trees, not only one, but numbers, which had produced ten barrels a year for the last three years. A man that can get ten barrels of apples annually off a Spy tree is entitled to our respect.

A MEMBER: Yes, his methods must be first-class when he can get ten barrels of Spies from one tree.

A MEMBER: Can you thin them out to make them bear annually?

PROF. CROW: Yes, I should say so.

A MEMBER: I think you spoke about Snows and Spies bringing $5 and $7 a barrel this year?

PROF. CROW: Yes, I understand they are selling in Montreal at that price at the present time.

A MEMBER: Where would that be f.o.b.?

PROF. CROW: I think Montreal. Where are you located?

A MEMBER: In Dundas County.

PROF. CROW: Do you find McIntosh as productive as Snow apples?

A MEMBER: I think it is a more regular bearer, but not the same number of barrels per acre say in a ten year period.

A MEMBER: Nothing like Snows for bearing, but Snows do not seem a hardy apple.

PROF. CROW: I think perhaps McIntosh is hardier, and experience shows they keep better.

A MEMBER: They are liable to fall off.

A MEMBER: No, we do not find that they fall; the trees, of course, are properly sprayed.

PROF. CROW: Of course that is peculiar more or less to all varieties.

A MEMBER: Now, it seems to me the Baldwin still holds a place for the export trade and also the western trade; I do not feel like turning the Baldwin down yet.

PROF. CROW: How soon are you going to, that is my point?

A MEMBER: Not at all, not even if it is worse than it has been, but I do not think we are going to have to.

PROF. CROW: If you were going to plant I think you would do better to plant McIntosh Red rather than Baldwin; that is the position I would take.

A MEMBER: Well, I do not think so. The Baldwin is hard to beat in a general way.

A MEMBER: It brings a high price in our local market.

PROF. CROW: Does it bear well in your district?

A MEMBER: Yes, it is the largest annual bearer; they are almost all No. 1, and of good size.

MR. DEMPSEY: I am sorry we have not more time for the discussion, but it is a subject we could spend the whole day on, but before closing it there is one point I would like to bring up. I would like to ask Prof. Crow in view of the higher price paid for "Rome Beauty," where would he place that in point of varieties?

PROF. CROW: Where does it come from?

MR. DEMPSEY: Well, it is a western apple.

PROF. CROW: The point the President brings up is rather out of the ordinary in this sense. It may be correct to say that the Rome Beauty brings a high price in our retail market at the present time, but that is largely a question of the cost of laying the Rome Beauty down in Toronto at the present time. It comes, you say, from the Western States and that would account for the price. But as for the Rome Beauty coming in here and cutting a hole in our apple trade, it cannot do it. There are a certain number of people who will buy the Rome Beauty simply because it comes from the Western States, and I have no doubt that the man out there would buy the Ontario apples if he came from Ontario. There are always a certain number of people who will buy a small quantity of apples like that at fancy prices. I do not think there would be an ordinary demand. I think the people from the west would probably be the only ones who would want to pay the higher figure for the Rome Beauty because it came from the West.

MR. DEMPSEY: My point was as to quality.

PROF. CROW: Well as to quality that is all right enough, but it is not the quality of the Rome Beauty that sells it at the higher figure—in quality it is not a high class apple at all—but because in this locality it is rather rare.

MR. DEMPSEY: I examined the Rome Beauty last year. The flavour is simply not to be compared with our apples. It is what you would call a good looker. I would class the Rome Beauty with our Ben Davis, not a bit higher. I do not think you can raise it one bit higher. The Rome Beauty grown in Ontario is far superior in quality to the Rome Beauty you buy in one of those little baskets for 60 cents a basket in Toronto to-day. It is too bad, in my estimation, that Toronto is taking such a poor variety of fruit and paying such a price for it when they can get McIntosh and Fameuse of much superior quality and at a much lower price.

THE NEGLECTED ORCHARDS AS A SOURCE OF PROFIT.

R. S. DUNCAN, PORT HOPE, DISTRICT REPRESENTATIVE FOR DURHAM COUNTY.

In view of the fact that so many of the old orchards in the Province of Ontario were being seriously neglected, a campaign for better orchard management was commenced in the spring of 1911 in the Counties of Northumberland and Durham.

Four demonstration orchards, one each at Colborne, Cobourg, Port Hope, and Newcastle, which had been very badly neglected, were taken in hand for a period of three years to be treated according to the best orchard practices. The orchards were situated near the main road where they could be under observation by passers-by throughout the season so that the results of the demonstrations could be noted.

CONDITIONS OF ORCHARDS IN 1911.—These orchards have been planted some thirty or forty years, but had been almost totally neglected as to pruning, cultivation, fertilization and spraying. In fact, they had never been sprayed, and hence the quality of the fruit was of a very low grade, the percentage of No. 1's varying from 30 to 60 per cent. They were full of bark lice and blister mite, and had suffered severely from canker and sun-scald, but it was hoped that with careful management, liberal feeding, and thorough pruning and spraying, that they would respond and give satisfactory results. Two of the orchards were in sod and had not been plowed for years. The soil in the Colborne orchard is a light sandy loam, and in the others a clay loam.

TREATMENT.—The orchards were all pruned in 1911, not very severely, but more of a cutting out of the dead wood and a thinning out of the top. In 1912 the greater number of the high trees were "dehorned," as much as 12 feet being taken off. Our object in doing this was to make a more spreading tree, have the fruit borne on the lower branches and thus economize in picking. In 1913 a lot of small twigs and branches were cut out to open up the trees thus giving the fruit a better chance to color.

All cuts of 1½ inches in diameter and over were given a coat of white lead and oil. The rough, loose, shelly bark was scraped off the trees to facilitate spraying operations. The orchards were all manured each year at the rate of 10-12 tons of farmyard manure per acre. In two orchards the manure was supplemented by an application of 200 lbs. of muriate of potash and 400 lbs. of acid phosphate per acre.

The orchards were plowed in each year as early in the spring as it was possible to get on the land, and then they received thorough cultivation up to the middle of June when a cover crop of red clover, buckwheat or hairy vetch was sown.

The orchards were sprayed very thoroughly three times each year as follows:

(1) Before or as the leaf buds burst, with commercial lime-sulphur, 1 to 10, to control oyster shell bark louse and leaf blister mite.

(2) Just before the blossoms opened, with commercial lime-sulphur, 1 to 35, with 2 lbs. of arsenate of lead added per 40 gals. of mixture to control apple scab, caterpillars, case bearers, canker worms, bud moths, etc.

(3) Immediately after the blossoms fell with commercial lime sulphur 1 to 40, with 2 lbs. arsenate of lead added per 40 gals. mixture to control codling moth and apple scab.

In spraying we used a double-acting hand pump and a tank, a home-made affair, holding 200 gals., with a tower attachment for reaching tall trees. We used two lines of hose and two angle nozzles of the "friend" type on each line of hose. One man was on the tower equipped with 15 feet of hose and a rod 8 feet long; the other man being on the ground with 30 feet of hose and a 10-foot bamboo rod. Two men acted as power on the pump, giving a pressure of from 100 to 150 lbs. All solutions were strained into the tank. The arsenate of lead was first brought into suspension before being strained into the spray tank. We always endeavored to spray with the wind and do as much of the treees as possible. One side of the tree was sprayed as it was approached; we then drove directly opposite and sprayed the central parts thoroughly; then we completed the other side at the third stop. We aimed to cover every portion of the tree though not wasting any material. For the spray after the blossoms fell we tried to do most thorough work—our object was to fill every calyx cup. 90 per cent. of the codling worms enter the apple in the calyx end, hence it is important to have the poison placed where it will do the most effective work. We used from 5 to 8 gals. of mixture on each tree for each spraying.

Results.—Accurate accounts have been kept of all expenses pertaining to each orchard in each of the three years. All labor with the exception of pruning, which is valued at $2 per day, has been calculated on the basis of $1.50 per day per man, and a man and a team at $3 per day. Farmyard manure has been valued at $1 per ton. These figures, I think you will agree, are quite reasonable.

In figuring out the results no allowance was made for rental of land as it was difficult to arrive at a fair valuation of the orchard; it differs in different localities. No account was taken of the interest on the investment or overhead charges, nor depreciation in value of the implements used.

I append herewith a tabulated statement of the expenses and receipts for the orchard of Mr. F. W. McConnell, at Colborne, in each of the past three years. The number of barrels, the percentage of No. 1 apples and the receipts are also given for the three years previous to our taking charge. This will be a basis of comparison between the orchard when in a neglected condition and after being properly cared for.

TABLE No. 1.—NORTHUMBERLAND AND DURHAM.

DEMONSTRATION ORCHARDS.

F. W. McConnell's orchard, Colborne; 117 trees, approximately 2½ acres; soil, light sandy loam; orchard 32 years old.

	In neglected state			After cared for		
	1908	1909	1910	1911	1912	1913
Expenses:—				$ c.	$ c.	$ c.
Scraping				11 25		
Pruning				34 00	22 00	39 00
Painting wounds				10 28	7 05	
Gathering brush				6 75	4 00	4 50
Spraying:—						
First				25 90	21 90	20 55
Second				15 75	15 70	13 13
Third				23 17	23 35	15 60
Cementing holes in trees					1 25	
Bracing trees with wire					1 37	
Removing dead wood and thinning suckers					90	1 80
Fertilizer:—						
Manure				25 00	30 00	30 00
Muriate of potash, 500 lbs.				13 00	11 70	12 60
Acid phosphate, 1,000 lbs.				11 00	11 00	16 00
Applying				1 00	1 00	1 00
Freight						2 75
Cultivation				18 00	9.00	12.00
Cover Crop				7 50	18 00	5 70
Total expenses				202 60	178 22	174 63
Expense per acre				81 04	71 29	69 85
Yield in barrels	300	250	73	331	333½	234
Receipts from sale of apples	$300 00	$200 00	$100 00	740 55	449 80	493 58
Per cent No. 1's	30-60	30-60	30-60	87.6%	80.5%	82.5%
Net profit				537 95	271 58	318 95
Net profit per acre				215 18	108 63	127 58

Figures from the other orchards could be given as above, but this will be sufficient to show in detail the expenses and returns.

The following table shows the comparisons of results before and after treatment in each of the orchards under my supervision.

The results obtained are in striking contrast to the small and indifferent crops yielded in unsprayed and uncared for orchards of the same locality. The quality of the fruit in each of the three years was exceptionally high—the percentage of No. 1's being raised from 30-60 in 1908, 1909 and 1910 prior to our having charge, to 75 to 87.6 per cent. while under our care. Further from 95 to 98 per cent. of all the apples grown in these orchards were absolutely free from any insect pest or fungus disease. Scarcely an apple could be found with a worm in it, and it was only an odd apple here and there that showed a spot of scab.

Under the heading, "selling price," these figures are the actual returns from the sale of the apples after deducting an item of $1 per barrel for expenses of barrel, picking, packing and placing on market.

TABLE No. 2.—NORTHUMBERLAND AND DURHAM.

DEMONSTRATION ORCHARDS.

Tabulated comparisons of results before and after treatment.

Orchards	Years		Yield bbls.	Selling price	Per cent. No. 1's	Expenses		Net profit	Profit per acre
						Total	Per acre		
				$ c.		$ c.	$ c.	$ c.	$ c.
F. W. McConnell, Colborne	In neglected state	'08	300	300 00	30–60	.....	.....	.....	.....
		'09	250	200 00	30–60	.....	.....	.....	.....
		'10	73	100 00	30–60	.....	.....	.....	.....
117 trees, 2½ acres	After cared for	'11	331	740 55	87.06	202 60	81 04	537 95	215 18
Sandy loam soil		'12	333⅓	444 80	80.05	178 22	71 29	271 58	108 63
		'13	234	493 58	82.5	174 63	69 85	318 95	127 58
W. G. Noble, Port Hope	In neglected state	'08	lump	200 00	30–60	.....	.....	.....	.....
		'09	lump	70 00	30–60	.....	.....	.....	.....
		'10	200	255 00	30–60	.....	.....	.....	.....
135 trees, 2½ acres	After cared for	'11	131	302 65	84.7	158 08	62 23	144 57	57 83
Clay loam soil		'12	167	259 25	86.8	137 85	55 14	121 40	48 56
		'13	211	572 25	78.2	141 20	56 48	431 05	172 42
Nathaniel Nichols Welcome	In neglected state	'08	307	275 00	30–60	.....	.....	.....	.....
		'09	140	150 00	30–60	.....	.....	.....	.....
		'10	101	126 25	30–60	.....	.....	.....	.....
72 trees, 1⅞ acres	After cared for	'11	233	475 70	82.0	150 50	90 30	325 20	195 12
Clay loam soil		'12	174	253 25	78.7	96 39	57 83	156 86	94 11
		'13	258	603 50	77.1	130 12	78 07	473 38	284 02
James Stanley Bowmanville	In neglected state	'08	lump	75 00	30–60	.....	.....	.....	.....
		'09	lump	75 00	30–60	.....	.....	.....	.....
		'10	lump	75 00	30–60	.....	.....	.....	.....
71 trees, 1½ acres	After cared for	'11	38	63 60	66.0	81 85	54 56	*18 25	*12 16
Clay loam soil		'12	†	.....	.....	.....	.....	.....	.....
		'13	†	.....	.....	.....	.....	.....	.....
W. H. Gibson, Newcastle	In neglected state	'08	.....	.....	.....	.....	.....	.....	.....
		'09	.....	.....	.....	.....	.....	.....	.....
		'10	.....	.....	.....	.....	.....	.....	.....
145 trees, 2½ acres		'11	.....	.....	.....	.....	.....	.....	.....
Clay loam soil	After cared for	'12	54	100 95	75.0	146 95	58 78	*46 00	*18 40
		'13	246	621 20	80.9	164 77	65 90	456 43	182 57

* Loss † C. P. R. surveyed through orchard

In the orchard of Mr. W. H. Gibson, it will be noticed that 54 barrels was the yield in 1912, this being about the highest number of barrels this orchard ever produced. After losing $18.40 per acre in that year, and then spending at the rate of $65.90 per acre in 1913 in pruning, spraying, fertilization and cultivation, a yield of 246 barrels was obtained, and a net profit per acre of $182.57 is the result. This is truly remarkable for an old orchard in such a neglected state.

A cursory glance at the above table will show the yield, selling price, percentage No. 1's, expenses, and net profit per acre.

The percentage of No. 1's varies in McConnell's orchard from 80.5 to 87.6, an average of 83.5; in Noble's from 78.2 to 86.8, an average of 83.2; in Nicholls

from 77.1 to 82.0, an average of 79.2; and in Gibson's from 75.0 to 80.9, an average of 77.9.

This is an average of 80.9 per cent. No. 1 apples packed in these orchards in the past three years.

The expenses per acre for pruning, spraying, fertilization, cultivation, etc., vary from $55.14 to $90.30, or counting the four orchards an average expenditure of $67.52 per acre.

The net returns vary from $48.56 to $284.02 per acre—McConnell's gives an average net profit per acre in the three years of $150.46 after deducting all expenses; Noble's, $92.93; Nicholls', $191.08, and Gibson's, $82.08. These figures are quite interesting, in that they show what can be accomplished in the old orchard.

Another tabulated statement has been prepared showing the cost of spraying the apple orchard, the number of gallons applied per tree and the cost per tree. The table is worthy of careful perusal.

From the figures it will be noticed that from 4½ to 11 gals. of spray material were applied per tree for each spraying. The cost of spraying, including labor and material, averaged 44.4c. per tree in each of the three years.

THINNING EXPERIMENTS.—We conducted an experiment in thinning the apples on a few trees to see if we could not get rid of the culls and secure the desired size in apples. A few Snow trees were selected in F. W. McConnell's orchard at Colborne, and thinning was commenced when the apples were a trifle larger than hickory nuts. Our intention was to thin all clusters to one specimen and leave no apples close enough to touch each other or in such a position that they would rub against a limb or twig when mature. We used small thinning shears and worked from a ladder. Result:—

Thinned tree: 6 barrels No. 1's, ¾ barrel No. 2's, 1 peck culls.

Unthinned tree: 3 barrels No. 1's, 3 barrels No. 2's, 2½ barrels culls.

The quality of apples on the thinned tree was much superior to that on the unthinned tree.

In N. Nicholls' orchard, at Welcome, another experiment was conducted on some Duchess trees.

6 thinned trees: 17 barrels No. 1's, 3 barrels No. 2's.

1 unthinned tree: 2 barrels No. 1's, 2 barrels No. 2's.

The three barrels No. 2 apples on the thinned tree were as good as No. 1's in size on the unthinned tree but lacked color. Scarcely a cull could be found on the 6 thinned trees, but ¼ of a barrel of culls was the result from the unthinned tree.

Our conclusion is that thinning should have been much more thorough and more severe. We figure that a man can thin a fairly good-sized tree in three hours at 20 cents per hour, or 60 cents per tree.

In conclusion let me say that as a result of these demonstrations the old orchards are being cared for in a manner as never before, and carloads of spray material and a great number of spray machines, both hand and power outfits, have been sold to fruit growers in the counties of Northumberland and Durham. The demonstration orchard method has proved its effectiveness as a means of stimulating interest in up-to-date methods. Special requests now reach my office asking me to take charge of an orchard for a period of years. The lesson has had its effect.

A MEMBER: The amount you expended on the land would depend largely on the value of the land.

TABLE No. 3.—NORTHUMBERLAND AND DURHAM.

DEMONSTRATION ORCHARDS.

COST OF SPRAYING, RESULTS, 1911, 1912, 1913.

Orchard.	Year.	First Spraying.						Second Spraying.						Third Spraying.						Total cost per tree.
		Cost of labor.	Lime Sulphur.	Lead Arsenate.	Cost of Spray.	Applied per tree.	Cost per tree.	Cost of Labor.	Lime Sulphur.	Lead Arsenate.	Cost of Spray.	Applied per tree.	Cost per tree.	Cost of Labor.	Lime Sulphur.	Lead Arsenate.	Cost of Spray.	Applied per tree.	Cost per tree.	
		$ c.	gals	lbs.	$ c.	gals.	cts.	$ c.	gals.	lbs.	$ c.	gals.	cts.	$ c.	gals.	lbs.	$ c.	gals.	cts.	cts.
F. W. McConnell, Colborne, 117 trees.	1911	10 50	77	....	15 40	7	21.5	8 25	17½	31	7 50	5	13.1	12 00	24	49	11 17	8	19.3	53.9
	1912	7 50	72	....	14 40	6½	18.7	6 00	25⅛	46	9 70	6½	13.4	9 00	33¼	77	14 35	11	19.9	52.0
	1913	6 75	69	....	13 80	6½	17.5	7 13	15	30	6 00	4⅛	11.2	7 50	18	45	8 10	6⅛	13.3	42.0
W. G. Noble, Port Hope, 135 trees.	1911	6 75	60	....	12 00	4½	13.5	7 50	18	32½	7 83	5	11.5	11 25	24½	50	11 40	7½	16.7	41.7
	1912	8 25	62	30	15 40	5	17.5	6 75	19	48	8 60	4⅝	11.4	6 75	23	57	10 30	6½	12.6	41.5
	1913	6 75	62	....	12 40	5½	14.1	6 00	20	40	8 00	5	10.4	9 75	19½	52½	9 15	5¾	14.0	38.5
Nathaniel Nichols Welcome, 72 trees.	1911	6 50	40	....	8 00	5	15.6	7 50	18	32	7 76	8	18.0	9 00	19	38½	8 81	9½	22.2	55.8
	1912	4 50	38	19	9 50	5⅛	19.4	3 75	12½	26	5 10	6	12.3	4 50	11¼	31	5 40	6½	13.7	45.4
	1913	4 50	39	....	7 80	5⅛	17.0	5 25	15	30	6 00	7	15.6	6 00	11	22½	4 45	6¼	14.5	47.1
W. H. Gibson, Newcastle, 145 trees.	1912	7 50	61	28	15 00	4½	15.4	7 50	20½	54	9 50	5	11.6	8 25	23	57	10 30	6	12.7	39.0
	1913	7 50	60	....	12 00	4½	13.4	5 63	20	40	8 00	4⅜	9.4	6 00	16	48	8 00	4⅜	9.7	32.5

NOTE.—All calculations are based on the valuation of three men at $1.50 each per day and a man and team at $3.00 per day. Lime sulphur is valued at 20c. a gal.; lead arsenate at 13c. a lb. in 1911 and 10c. a lb. in 1912 and 1913. The cost of spraying the apple orchard, including labor and material, varies according to the above figures from 32.5c. to 55.8c. per tree.

MR. DUNCAN: It is a rather difficult matter to arrive at any definite decision as to the value of the land. Some is valued at $100, others at $200, others $500, and some at $1,000 per acre.

A MEMBER: In regard to fertilizers, what amount did you use?

MR. DUNCAN: 200 pounds of muriate of potash, 400 pounds of acid phosphate per acre.

A MEMBER: Any barnyard manure?

MR. DUNCAN: Oh, yes; that is in addition, 10 or 12 tons of farmyard manure.

A MEMBER: Was that soil sand or clay?

MR. DUNCAN: That was a light sandy soil.

A MEMBER: Muriate of potash would act better on that than on some soils.

MR. DUNCAN: That may be so. I know we tried 200 pounds per acre, and it has certainly responded.

A MEMBER: Do you prefer acid phosphate to bone meal?

MR. DUNCAN: Yes.

A MEMBER: Would not basic slag be all right on some soils?

MR. DUNCAN: It contains a considerable amount of calcium or lime, and lime has a beneficial effect in liberating potash in the soil.

A MEMBER: Has the manure any value on the light sandy soil?

A MEMBER: In cutting back. how far did you cut back?

MR. DUNCAN: We cut some limbs that were 1, 2, 3, and 4 inches thick.

A MEMBER: Would that grow over?

MR. DUNCAN: Yes, it is at the present time.

A MEMBER: I suppose that would only be one or two limbs at a time?

MR. DUNCAN: Yes, not enough to stagnate the growth.

A MEMBER: On what do you rely for your supply of nitrogen?

MR. DUNCAN: I think I would get sufficient nitrogen in a bearing orchard from the manure I would use; that is barnyard manure. It is stronger in nitrogen than phosphoric acid and potash.

A MEMBER: How much manure would you use?

MR. DUNCAN: Ten to twelve tons of well rotted manure per acre annually.

A MEMBER: Would you advise cultivating an old sod orchard?

MR. DUNCAN: Has it been in sod for a good number of years?

A MEMBER: Forty-five.

MR. DUNCAN: According to my ideas I would plow it over very early in the spring, then thoroughly cultivate it up to the middle of June; then sow a cover crop of red clover, buckwheat, or hairy vetch, whatever will give you the best results.

A MEMBER: Some of my neighbors are cultivating orchards of the same kind of soil in the same locality which probably has been in sod a great length of time, and my experience would go to show that they grow larger apples, and I think, perhaps, better quality

MR. DEMPSEY: Well, how about the quantity?

A MEMBER: Well, I think about the same quantity of apples, but the orchard I have reference to is a better orchard than my own.

MR. DUNCAN: To what do you attribute the large yield of apples and the quantity of the yield in each of these orchards?

A MEMBER: Fertilizers and cultivation. This orchard of Mr. Noble's has been cultivated for three years, and there you will get a fairly good color of apples. I

am speaking of McIntosh and Baldwins and Gravenstein. What I want to get at is this: Is it possible to grow too large a McIntosh?

MR. DEMPSEY: Yes, it is possible to grow too large apples of any kind.

A MEMBER: The McIntosh Red is not a very large apple.

MR. DEMPSEY: It should grow considerably larger than the Fameuse.

A MEMBER: Yes, I find when they grow so large in size and quantity they do not take on so good a colour.

MR. DEMPSEY: There are three or four orchards of McIntosh in the county of Hastings that have come under my observation for the last seven or eight years. One is on light, gravelly, rich red loam, and I have never seen finer McIntosh apples. There are a number of trees, and it produces in the neighborhood of 400 or 500 barrels per year. The other orchard is a heavy clay, and the windfall McIntosh apples are practically useless they are so bruised, so you may know what class of soil is there. That soil has never had anything else but barnyard manure. The apples are a fair size, somewhat large and very highly colored, as much so as any I ever saw grown in the St. Lawrence Valley. The great, large, overgrown McIntosh has not much flavor. That applies to all apples that are overgrown; they are worse than nothing. All overgrown apples should be discouraged.

A MEMBER: How do you regulate them to the size you want; or is it possible to do so?

MR. DUNCAN: Yes, to get them the proper size you allow a few more apples to produce on your tree and then you do not have so many large ones. Of course, you are bound to have some large ones.

A MEMBER: Then you think that cultivating an orchard produces a better quality and a larger crop, from the dollars and cents standpoint?

MR. DUNCAN: Yes, it certainly has the effect of producing more, and when it comes to dollars and cents there are more dollars and cents in cultivated orchards. In all my observations, both on the other side and this side, this is the case, with the exception of Mr. Harkness's orchard, which is a law unto itself. I do not know of another orchard equal to it for sod cultivation. His orchard is on the side of a hill, covered with wood; it is snowed under every year about three or four feet deep, and the moisture cannot get away, but has got to come down gradually from the woods on the crown of the hill. He has moisture there the year round coming down gradually, and I do not know of another orchard so well or fortunately situated. The trees are planted just where he thinks they will grow. If there is a hole in the pasture field he sticks a tree in there if it will grow; there is no regularity about the planting at all of that orchard. In a case of that kind I certainly would not attempt to plow it.

A MEMBER: I do not see that we should discuss the point as to whether cultivation is the proper thing or not. Of course, cultivation is the proper thing. Those that cultivate get good returns and those that do not cultivate do not get returns they can rely upon.

MR. DUNCAN: Just a word in conclusion as to the results of these demonstrations. The results obtained are in striking contrast to the small and indifferent crops yielded in unsprayed and uncared for orchards of the same locality. Orchards of which we have had control in regard to the percentage of No. 1 apples certainly show a great improvement over the apples grown in unsprayed and uncared for orchards, and this fact alone is a great commercial advertisement. Carloads of spray material and a great number of spray machines, both hand

and power outfits, have been sold to fruit growers in the counties of Northumberland and Durham as a result of these demonstrations. I think they have proved their worth and effectiveness. Even the men who own these orchards are now going to buy spray pumps. One man asked me if I would sell him the small outfit I have been using for the past three years. He says he will continue to spray with that same outfit in the orchard for years to come. There is no doubt in my mind of the beneficial effect of these demonstrations in the neighbourhood. They all now believe in spraying.

A MEMBER: What do you say gave you the best results in cover crops?

MR. DUNCAN: The best cover crop we have had so far is red clover sown at the rate of 15 or 20 pounds to the acre. Hairy vetch did not give such good results. Buckwheat when we tried it seemed to have a very good catch and seemed to give almost as good results as red clover. The last year or two we have had an exceptionally good growth of red clover, and we had a good crop of humus to turn down.

A MEMBER: Do you use carbonate of lime?

MR. DUNCAN: No, we have used simply manure, muriate of potash, and acid phosphate.

A MEMBER: Would carbonate of lime do in the Niagara district?

MR. DUNCAN: It might give very fair results, although it would contain nothing but calcium of lime, no direct manurial value. Lime has a poor manurial value; there is no plant food in it of any kind. Of course some plants require a little lime.

A MEMBER: Is that the best form of lime?

MR. DUNCAN: If I were going to use lime I would take basic slag and phosphoric acid; the basic slag contains from 30 to 40 per cent. lime, and some sulphur.

A MEMBER: What time of the year do you plow the cover crop down?

MR. DUNCAN: In the early spring.

A MEMBER: Would it not be better to leave it till June?

MR. DUNCAN: Well, then it would not get the benefit of the cultivation it should have; I would like to sow the cover crop on the 15th of June.

A MEMBER: Will you explain the manner in which you handled your cover crop all through?

MR. DUNCAN: We sowed buckwheat from about the middle of June to the 20th of June; I forget just exactly the amount we sowed per acre. However, we sowed it, and just simply left it until the fall, when the picking of apples took place. In one case we ran the mower over it so that the pickers would not get their legs and feet wet in going round the orchard; in the other orchard we let it grow.

A MEMBER: Do you not find that the buckwheat dies in the shade of trees?

MR. DUNCAN: I do not think it will altogether.

A MEMBER: I understand all the trees were sprayed; how much spray do you think you used per tree? That is for each application?

MR. DUNCAN: The number of gallons per tree varied from 4½ to 11 for each spray.

A MEMBER: That last figure would be for a very large tree, of course?

MR. DUNCAN: Yes, trees 30 to 35 years of age.

MR. DEMPSEY: A member raised a point that is not understood by a great many people, it seems to me: that is leaving on your cover crop in May right on

until late in June, until you have got a tremendous growth on the soil and then turn it under. I am convinced, from personal observations, that when you do that, and start cultivation so late in the season, you have lost all the advantages of cultivation. Cultivation should start in the spring, just as early as you can get on the soil to cultivate it; it should be thoroughly cultivated and not half-heartedly. Now, the question is as to just the time to turn your cover crop under. Probably there are some other questions to be raised on that?

A MEMBER: What about the moisture that the cover crop consumes? That is one point I intended to make in my remarks before: that you had lost the moisture that you had wished to conserve in order to get this great growth of humus, and had not got the growth of tree that you would have by earlier cultivation and conservation of moisture.

MR. DUNCAN: A great deal depends on the locality and the nature of the soil; the locality for the natural supply of moisture, and the soil as to its retentive qualities. In that district they would not be dried up in June. Then when you turn that other crop in you can control the moisture.

MR. DEMPSEY: If you plow them under early in the spring there is not much to turn under. I am afraid that the speaker has one of those favoured locations such as Mr. Harkness, and that the rest of us are in a less fortunate position. We have not a soil that will carry sufficient moisture for a crop of clover. The experimental farm at Ottawa has one of these favourable locations. They have any amount of moisture there. That applies to favourably situated orchards, but in my estimation most of the orchards in Ontario cannot stand that. In some places not only do they not plow late in the spring, but they will not grow a cover crop that lasts through the winter. They think it is much better to put in vetch or oats, and to get a moderate stand of some cereal in the early part of the fall, and let it die before the winter comes. They think that holds the moisture just about as well.

A MEMBER: Would you get as good a catch of clover on a newly turned sod as on one that had lain for some time?

MR. DUNCAN: You would not get such a catch on a newly turned sod. Of course the season has so much to do with whether you get a good catch or not. This last year we did not get as good a catch of clover as we had been getting for some years past.

A MEMBER: What kind of a crop did you have?

MR. DUNCAN: About three or four inches.

MR. THOMPSON: Prof. Crow stated that the man who could get a crop in years like this was singularly fortunate, because he could come out ahead. Unfortunately that does not apply to anyone who has planted an orchard that is not yet bearing. But taking the apple orchards both old and young, and it is the old ones I am interested in at present, because they are, of course, worth more. I have a young orchard, planted just a few years ago which has fetched in some small returns, but not much yet. I suppose apple orchards are of the same value as peach orchards, that is from $500 to $600 an acre. I think, myself, if anyone offered me a good apple orchard or a peach orchard I would take the apple orchard.

A MEMBER: Apple orchards are not worth anything like the money that good peach land is down there. They are asking a great deal more for peach land.

MR. THOMPSON: That does not make any difference.

A MEMBER: Do you mean to say seriously that you would take an apple orchard in preference to an equally good peach orchard?

MR. THOMPSON: Yes, I would take an apple orchard in preference to a peach orchard every time, right in my section of the country. The men who are in the apple-growing business are making more money.

A MEMBER: Yes, but in regard to the comparative price of orchards that is outside the question.

MR. THOMPSON: Yes, but it follows Prof. Crow's line of argument in this way, that by following his suggestions as to the choice of varieties you have a longer season with apples, and consequently can handle them more advantageously. Prof. Crow stated that first he would plant a few varieties, two or three, then he started in to plant Duchess—an apple coming on at a different time to the three varieties he suggested—that was to cover the season. Unfortunately in the Province of Ontario the San José Scale has cleaned some of the orchards out, and for that state of things the orchard owners ought to be ashamed of themselves, but still they can make more money out of apples.

PROF. CROW: The reason they are making more money—those who are—is for the reasons I have mentioned. If a man has a few varieties only he can sell his Duchess every year without any trouble, but if he has a great many varieties, and only 30 or 40 barrels of each he cannot make up a carload. Now, it must be taken into consideration when planting, what the nature of your marketing facilities is going to be; whether by co-operative methods, in which case a number of farmers or growers can make up a carload, or whether you are going to make up your own carloads.

MR. THOMPSON: The same thing, I think, applies to peaches.

The next question in regard to these old orchards is the use of fertilizers, and the necessity for cultivation. I think there is no question about the necessity of fertilizers. Prof. Crow has stated that, leaving out the few spots of land that are naturally fertile, and that do not need fertilizers, fertilizing is one of the principal helps in the increase of our fruit production. Then, again, a large proportion of our orchards require cultivation in order to get and conserve the necessary amount of moisture to produce a heavy crop.

In regard to whether the trees should be planted close together, and what size and so on, I only have a few words to say along the line of my own experience. If trees are planted close together and low you cannot get your horses under them; you cannot get even your hand spraying machinery under them to properly spray them, nor your cultivators, etc., and if you neglect your orchard for a few days the grass and weeds get ahead of you or the ground gets dry and hard. You must get the necessary amount of moisture there, but as to the exactly best methods of handling the orchard for that purpose. I think it will require some years yet for us to know just how to do it. I do sometimes think that possibly the better way to do it would be to work the whole orchard except a few feet around the tree: work it both ways and if the grass or weeds come up have them mowed down and left as a mulch. Of course you must remember that the more you are able to work the orchard with horse labor the cheaper you will do it. It is a case of labor. We all know what we would like to do if we had the necessary amount of labor. If you cannot get sufficient help to properly clean your orchard it is going to get rank with wild growth, dry and hard. With the necessary horse appliances able to work freely in the orchard we can get them in shape in a very few hours. I have been looking at some orchards cultivated that way, and I have

been anxious to find out whether the owners were making money out of them, for they would certainly get sufficient moisture there.

A MEMBER: That is with the orchard pruned and planted to allow horse machinery to do all the work.

MR. THOMPSON: That, I think, was the idea with the orchards I have reference to. But I do not say definitely whether it is better to plant the trees six or eight feet apart or twelve feet apart. In our section of the country we cannot get a mulch because straw is worth more than hay, and manure costs $1.50 a ton.

MR. DEMPSEY: Yes, but there is the question Prof. Crow brought up of how you are going to plant the trees. Suppose you plant 200 or 300 Spies, with some other varieties, how are you going to plant them so that they will be fertilized and enabled to fruit? Some trees are self fertilizers and some are not. Would you plant the rows in such a way as to have them alternate or in a block?

MR. CAESAR: I think the spray tests of the blossoms during the last five years will bear me out in saying that the best one for the Spy is our old favorite the Ben Davis.

MR. PATTISON: The Duchess.

MR. CAESAR: Mr. Paterson says "Duchess," but I am afraid it comes on somewhat earlier.

MR. DEMPSEY: You have a lot of orchards through the country; how does it work out? Where it is not necessary for them to be together you have them mixed up; is that a fact?

MR. DUNCAN: As far as the question was asked about putting them together I would say: We want to have varieties that would bloom at the same time together so that we can spray them at the same time.

MR. DEMPSEY: But that question is not altogether settled yet. We have here a number of solid Baldwin orchards which will not bear. We know for a matter of fact orchards like that that bear good crops.

A MEMBER: Do they bear annually?

MR. DEMPSEY: They will not do it under some circumstances, that is one thing sure. But I was trying an isolated Spy block.

MR. PATTISON: That celebrated Spy orchard of Mr. Dinwaddie's is practically entirely isolated from any other variety or orchard. He has an orchard of 12 acres which has cleared him thousands of dollars within the last five years; seven thousand one year, and for years two thousand a year.

A MEMBER: All Spies?

MR. PATTISON: A solid block of Spies. Not only that, but it is on the bank of a creek, and has nothing near it except a very small orchard.

A MEMBER: Absolutely no other varieties?

MR. PATTISON: He has one or two others, but practically none except Spies.

A MEMBER: What is the size of the orchard?

MR. PATTISON: There is about thirteen acres of land, but only twelve acres of orchard. He is cutting these trees down something in the shape of greenings. They were originally 40 feet high, but now they can be easily picked. I was in it twice at bearing time and the yield was something tremendous. We failed to find a wormy apple. There was some slight scab, but very slight.

A MEMBER: How did he cut them down?

MR. PATTISON: He took the centre right out. Professor Shaw and his brother planted that orchard some twenty-five years ago, and Mr. Dinwaddie has

had to spend some money on it, but he has made well. One of the chief methods was girdling. Some trees were girdled three and some four times.

A MEMBER: Is that to prevent the growth of wood?

MR. PATTISON: That is to promote the bearing of fruit. I am one of those who think that trees form habits something like people; that is to say, if you plant an apple orchard, and never allow it to overbear, your chances, with good treatment of the orchard, are good for regular bearing trees, but if you once allow the orchard to overbear you are going to have some difficulty in getting it back to the normal. I may say that this year I managed to put a 20-acre orchard in shape in Northumberland county. I also planted 2,000 trees for a syndicate, and while there visited a number of orchards. Blocks of Spies will not fail to bear if their treatment is right.

A MEMBER: When you were cutting down your 40 foot trees and taking out the centre, did you cut down to the crotch?

MR. PATTISON: No, he did not go right down to the crotch; he went down about 20 feet in some cases without going down to the crotch and took the centre almost entirely out. He cut down to where there were arms and buds coming out.

A MEMBER: What preparation do you use for painting the cuts?

MR. CAESAR: We have been using this last season a preparation of gas tar and after examining the trees have found no trace of injury.

A MEMBER: What is the general rule for cutting back?

MR. CAESAR: You want to cut back to where there is a good strong limb left. You thin these out leaving the first or last one. You want a certain proportion of these left there to form the centre for the future; that is with your growing trees. Keep the head of the tree as close down as you can. Do not cut all the suckers away, as that keeps the wound from healing up. There is no danger of decay.

A MEMBER: Where you know there is going to be a certain amount of decay would you still cut the tree down?

MR. CAESAR: Yes, even if we were certain that a number of these limbs would decay we would still lower our tree. The cost of spraying a high tree is greater than the cost of thinning the tree. The picking and everything is so very much easier on a low tree than it is on a high tree, it would pay to do it.

A MEMBER: In nine cases out of ten where you girdle as Mr. Paterson has suggested your orchard would die out.

MR. PATTISON: I think myself that Mr. Dinwaddie has shortened the life of these trees somewhat. I think if he had taken this process many years before that his trees would not have been very long lived. I simply say this because I think, perhaps, there has been a loss of vigor in some of them.

A MEMBER: Due to girdling?

MR. PATTISON: Yes, I think so. I think you get very good results for some years, and in the case of this orchard which was not bearing at all, he was abundantly justified.

PROF. CROW: I would certainly not recommend even beginning it unless the orchard refuses to bear.

CURRANT AND GOOSEBERRY CULTURE.

L. B. Henry, Winona.

Currants and gooseberries have not been very largely cultivated in the past few years, but at the present time there is quite an increase in the acreage being planted out. A few years ago the price of currants went down so low that they became unprofitable. Black currants were selling in 1899 and 1900 at 65c. for a 20-pound basket, and at that time you could not sell red currants at any price. But from that time up to the present prices have steadily risen, until in the last two years we have been getting very fair results from these crops. In fact as high as 10½ cents per pound; lately some at 6½ and red varieties less. There has also been quite an increase in the number of varieties planted out within the last 13 years.

Currants.

Currants are very easily grown, but to obtain the best results they must be carefully cultivated and looked after the same as any other fruit. The best soil is a rich clay loam, and besides this it must be well drained and at the same time retentive of moisture. The idea of its being well drained is this: Currants leaf out very early in the spring, and we must be able to get on that land early enough to cultivate it thoroughly; to have it in a good state of tilth before the leaves get out, otherwise the currants will receive a severe set back. If we allow the leaves to get out very far before being cultivated a heavy crop of fibrous roots shoot out; the cultivation destroys this crop of fibrous roots and gives the plant a great set-back. The idea of the soil being retentive is this: About the time the fruit is heading out very rapidly it is using a good deal of moisture, and usually about this time we have a severe period of drought; and if we have a soil that will hold moisture in sufficient quantities to tide the crop over this dry spell we have gained another point towards success with these fruits. You can easily see what a great disadvantage there would be with a soil that would dry out too quickly at this period. If you have a soil that will not retain moisture you will suffer a great loss just as soon as dry weather sets in.

Propagation: The propagation of currants, I suppose, is not of very much interest to fruit growers generally; it is, as a rule, carried on by nurserymen. Currants are nearly altogether propagated from cuts, and these cuts may be taken at different times of the year. The old method is to take the cuts about August or September and plant them right out in the nursery row, and if the fall is favorable enough they will be ready to start a good growth by the next spring. If this method is adopted the cuts should be covered by a strong mulch to prevent them from heaving. If the winter is mild, and we have many frosts with mild and wet weather intermittently, the plants will heave out if not well mulched and will not start well in the spring.

A Member: Would it not be better to set the cuts out early in the spring?

Mr. Henry: I am just coming to what I consider the best method. There is another method, of course, that of taking the cuts in the late winter and storing them in sawdust in the cellar; they are thoroughly covered with sawdust and this encourages a mass of rootlets to start at the base of the leaf. Early in the spring these cuts are then set out. The best method, in my own experience, is this, and we have tried two or three methods of taking cuts—fall, winter and spring.

If the spring is favorable for fast growing, we have taken the cuts right out in the spring and set them out, but even under favorable circumstances that method has not been the success that the other two have. In starting the cuts it has been my experience that they should be sprayed to keep out mildew and also other diseases such as leaf spots, and others that attack currants; they should also be cultivated well for the same reason.

Selection of Plants: Now, in selecting plants for planting out in our patch there are many differences of opinion as to which is the best plant to settle on—the two or one year old. Many people prefer the two year old for the reason that it is a larger plant and has fibrous roots slightly more branched and makes immediate growth on being set out. It is certain that if a plant is a two year old No. 1 and has been a No. 1 one year old, it is better for planting than a No. 1 one year old. But the point of view is this: Many plants are sold when they are one year old and at that time they are graded into ones and twos. The ones are sold as No. 1 one year olds; the twos are planted back again and next year sold as two year old No. 1's, and by this method you see two year old No. 1's are really one year old culls, and for this reason I prefer No. 1's one year old. In all the patches we have set out we have used those plants. The nurserymen charge a higher price for two year olds, and, as I have said before, if they are good they are certainly better than No. 1 one year olds.

A MEMBER: Should the sawdust be dry or moist?

MR. HENRY: Keep the sawdust moist.

A MEMBER: How would sand do?

MR. HENRY: Well, sand is not as good as sawdust, but you can use a mixture.

A MEMBER: Does the sawdust hold the moisture better than the sand?

MR. HENRY: Oh yes, sand dries out very quickly, while sawdust will conserve the moisture.

Planting: Now, as to the time for planting out. That again is a point for discussion. Many people prefer to plant in the spring; in fact it is a very hard matter to persuade anybody that they should plant in the fall, but in the Niagara district it has become the practice of some of the best growers to plant in the fall. The reason for planting in the fall is to get the currants set out and to let them become established before winter sets in, and if they are planted out in this way they will be in first class condition for a rapid and vigorous growth in the spring. They do not receive any setback, as they would if planting were postponed on account of a late spring. As I said before, currants leaf out very early, and if the spring is at all wet the leaves come out and growth starts, and the roots use up a certain amount of plant food that is being stored in the branches and bush and when the plant is set out in the spring it is not as vigorous or strong as it would have been had it been set out in the fall. Of course where the spring conditions enable you to get the plants out early and later conditions do not give the plants a setback, this spring planting is just as good as fall planting, but we cannot guarantee these conditions. We recommend fall planting for currants, both red and black, and when I treat of gooseberries it will be the same.

There are two methods of planting out, and in a commercial plantation we want to do the thing as cheaply as possible: but at the same time we want to have as satisfactory a method as it is possible to get. The last planting we put out was done in this way: The patch was measured at both ends for rows about nine

feet apart, and long stakes about five feet set up. Then from these stakes we set lines all the way down the field to the other end. This merely served as a guide for the men to furrow out by and we furrowed both ways from the stakes where the row was to be set. We found a good plowman could plow a furrow almost as straight as a line could be drawn. When the furrows were plowed the required distance apart for planting we put in the row and had a man mark a hole or just scrape it out with a shovel, but by having the furrows properly made we reduced the shovelling to a minimum.

The plants are to be set very firmly; the earth to be shaken in among the fibrous roots and then tramped down and loose earth put on it to conserve as much moisture as possible. Of course that is not the only method, but it is a cheap and quick method. If one wanted to be accurate, very accurate, the patch could be measured out with the exact distances between plants and each plant set the exact distance apart in the row, but when planting on a commercial scale I do not think it is necessary.

A MEMBER: How many feet apart do you plant the rows?

MR. HENRY: In that patch 9 feet apart by 3½, but we have found since that 3½ feet is altogether too close. The patch is a five-year-old growth, and when replanting a patch we made it 9 by 7 feet, and we find that is a fairly good distance. The planting should be fairly deep, so that the earth comes up to within an inch or so from where the first branch joins the main stem; that is, we plant somewhat deeply. We had another patch 22 years old, originally planted at 7 by 3½, but about seven or eight years ago we dug it over and replanted at 7 by 7. From the experience gained by our own mistakes we set out another patch of black currants, about two acres, four years ago, and it was done in this way: We started on one side of the field and planted three rows 7 feet apart, then we left a space 9 feet, and then planted three more rows 7 feet apart. Now you will wonder what that space of 9 feet was left for; it is this: We have found from experience that that strip of land does not grow black currants with the best success, so we left that 9 feet bare for the purpose of driving a sprayer down there. On land that would stand it that strip need not be left and the rows could be set out 7 feet apart. Now, as to the best distance for the plants to be left apart in the row, we have found 5 feet a very satisfactory distance, and I really do not think that they should be planted any closer. If you set them out at 7 feet it is a little too much room and if the land is expensive it is not economy.

Cultivation: As with all crops of fruit, we must cultivate currants very thoroughly and start very early. Our method is to plow in the fall. I suppose in some northern districts you would not be able to plow in the fall, but it is generally practiced in the Niagara district. We plow late in the fall, and leave a deep furrow in the centre to take up all the surplus moisture. Then in the spring we put a two-horse spring tooth cultivator to work the soil up. This pulverizes the soil very well, and leaves it in a good friable state. A one-horse spring tooth cultivator is used to cultivate cross-ways. After this cultivation we cultivate at least once more to keep the dust mulch and top soil in good condition. Some people, I believe, practice a mulch system, but so far as my experience goes I do not know many who have tried it. Mr. Thompson, have you tried a mulch system for currants?

MR. THOMPSON: No.

MR. HENRY: I know it is the practice in some districts, but not on a com-

mercial plantation. The cultivation should cease a week or so after the crop is taken off, so as to allow the young shoots to become ripened and matured by the time the winter sets in; that is, thoroughly hardened to stand a rough winter. If any stable manure is applied it should be applied at this time, just before plowing down, and have time to become partially rotted and available as plant food when the growth begins in the spring.

Fertilizers: As far as the use of commercial fertilizers for currants goes, I have no definite results to give you about their benefits; we have not used them to any large extent; we use barnyard manure entirely. We know of one man who used a commercial mixture of 2 of nitrogen, 8 phosphoric acid, and 10 parts potash, at the rate of 500 pounds per acre, and he got very good results in connection with barnyard manure which he used at the rate of 10 tons per acre, but further than that result I cannot give you anything definite. But in any case I think if commercial fertilizers are used they should be used in connection with barnyard manure, because if used alone in time the proper chemical condition of the soil is bound to be injured.

A MEMBER: In using that quantity of barnyard manure, could you not leave the nitrogen out of the commercial mixture?

MR. HENRY: In using large quantities of commercial mixtures it is not necessary to use so much barnyard manure, and we have used a larger quantity of barnyard manure and no commercial mixtures.

Pruning: The pruning of black and red currants is absolutely necessary if large crops are to be obtained. In pruning them a system of renewal is practised. In the case of black currants the fruit is borne on wood of the preceding year's growth. The object aimed at is to get as much of this wood as possible, cutting the bush fairly well down. In pruning red currants the object is to get as much two-year-old wood as possible, as the fruit is borne on spurs growing on wood of that age. All branches which are much older have passed the age of the greatest productiveness. When between three and five years have passed, or perhaps four and five years, they should be removed and young canes or branches allowed to take their place.

Now I might be a little bit clearer on this. I spoke about pruning young bushes. The idea is to develop fruit buds, and fruit bloom all along the branches, instead of just at the ends. Red currants develop very extensively; perhaps you will find them developing fruit just towards the end of the branches more than they do down further along the branch. If the young shoots are cut back slightly the fruit will develop further down the branch and thus the load of fruit will be more evenly balanced all over the bush instead of being at the ends. When you have a heavy crop of fruit it is liable to bear down and break the bush. Of course all broken branches should be removed, and all surplus young shoots that have a tendency to make the bush too thick should also be taken off.

The best time to prune is a point to be argued. Most of it is done in the late winter, about the latter part of January and in February, and a lot is done in March. It is safe to prune any time after the leaves fall off and the wood has begun to ripen. Pinching back the young shoots in summer is not practised in this country as far as I know. The object of it is to develop fruit spurs, but its benefit is a little doubtful, especially in this climate. It is liable to force buds into growth which will not become well ripened by winter, and will likely be winter injured.

Varieties: I suppose it would be rather difficult for me to name any one variety as absolutely the best. As regards black curants I only grow one variety, having found it to be the best with us, that is the Black Naples. It is a strong and vigorous grower and very prolific. The buds are borne on short clusters and very well distributed over the bush, and it is an old standard variety, in fact it is one of the oldest varieties on the market. The Black Champion is another black currant, but is not so vigorous; it ripens about five days to a week later than the Naples, and this may be a point in its favor, as it can be planted along with the Naples and will make a yield that will surprise you. But we have found one fault with it—the fruit does not ripen evenly; that is to say, the fruit may be ripe on some parts of the bush and partly green on the other sections, and for that reason it requires more time to pick the fruit properly. The Victoria is another black currant which is very well known. It is very vigorous, perhaps more so than any other variety I have mentioned, but in our district it is not as heavy a cropper as Naples or Champion. I have no doubt some of you will think that is wrong, because I have heard that Victoria in some districts is one of the best currants there.

A MEMBER: Which is the larger berry?

MR. HENRY: Well, you will find that towards the base of the bush Champion berries are large and tapering out towards the end to small, but Naples are uniformly large.

A MEMBER: I think Champion are the largest berries grown.

MR. HENRY: Perhaps you will find a few Champion berries larger, but taken as a whole the Naples are larger berries.

A MEMBER: Have you tried them lately?

MR. HENRY: We do not grow it, no, and I do not know of any patches in our district.

The Cherry and Fay are no doubt the most extensively grown red curarnts in Ontario. The Cherry is a large, bright red currant, and is a very heavy cropper. The bunch is large but very compact, and the difference between it and the Fay is that the bunch of the Fay is long and loose towards the end. Some people will tell you that the Cherry is far the best kind, and others again that the Fay is the best. As a matter of fact there is very little difference between them; the Fay is almost as large and a heavy cropper.

A MEMBER: How do they compare in price with the Gem?

MR. HENRY: If you are selling them you obtain the same price for the Gem that you do for the Fay and Cherry.

A MEMBER: I generally market the Cherry currant under a higher price. A lot of people do not know the difference between the Cherry and Fay; they are so very similar.

A MEMBER: Have you any experience with Perfection?

MR. HENRY: There is a patch near us, a small patch, which has just come into bearing, and consequently I have not had an opportunity of studying it very closely.

A MEMBER: In my experience the Fay is more easily picked; the bunch does not grow so close, and in picking you can get your finger and thumb in between the bunch and the stem more easily.

A MEMBER: Do you think the Perfection is a slow grower when young?

MR. HENRY: Yes, it is rather a slow grower. This little patch that I am speaking of is bearing well, but was a slow grower when young. It is more vig-

orous lately and a good cropper. The Chateauqua is another currant of the same class. We planted an acre of Chateauqua currants out five years ago, and they made very slow growth until last year, when they shot right ahead, but they produced a good crop last year. Prince Albert is another currant which is not very widely planted, but which will stand heavier planting than it is receiving at the present time. The Raby Castle is a smaller currant than any of the others I have mentioned, but a more vigorous cropper than any of them. There is a little difference in price when you come to sell them, for the reason that they are a little smaller. They are not being planted so largely as they were ten or fifteen years ago.

A MEMBER: In some sections in the States they think Wilder is better than Cherry or Fay; in New York State they use it to a large extent.

GOOSEBERRIES.

A MEMBER: What is the reason for the large increase in the planting of English gooseberries?

MR. HENRY: There has, I know, been some large increase in the plantations of English gooseberries that have been set out. Perhaps the stimulus to the growing of English gooseberries in particular has been given by the building of jam factories. The factories have caused more demand for this fruit. Then a stimulus has been given in the last five years by growers being anxious to adopt the best methods. At one time we could not control gooseberry mildew. English gooseberries can now be grown with almost no sign of mildew. Besides the market we have for them in the jam factories, there is also a good market for them in the western provinces, and also in the east. Last year quite a number of growers shipped large quantities of gooseberries out west and received good prices for their fruit, and if that market is carefully developed no doubt we can ship more and more out there as the years advance. During the last few years English gooseberries have been quoted somewhat higher than American varieties.

A MEMBER: What is the reason of that?

MR. HENRY: I cannot tell you exactly the reason of that, unless it is because the English berry is larger and a more handsome-looking berry, but no better quality; it is hard to get a better quality than that of some of the American varieties.

A MEMBER: You cannot get a single American variety to compete with the English gooseberry for a moment in flavor.

MR. HENRY: The difficulty with some of the English gooseberries, some of the varieties you have mentioned, is that the skin is hard, especially when they are green.

A MEMBER: Some kinds are hard, but others are not so.

MR. HENRY: Most of these gooseberies are picked when they are green; they may be transparent but yet tough. Gooseberries are picked when they are green for making into jam, and in cooking up some of them will be found to be rather tough.

A MEMBER: They should succeed here just as well as they do in England?

MR. HENRY: Well, perhaps it is only a claim that they do not succeed here as well as they do in England. They have not the same advantage of damp atmosphere. They are not in their natural habitat. One difficulty with English gooseberries in this country is the difficulty of protecting them from the sun in the hot

months, and sometimes they have become scalded. They will scald very easily if left out in the hot sun or if the bush is very open. I remember a case three years ago. One of our patches was almost destroyed during one hot day. We had the patch half picked on a Saturday, and the Sunday following was a very hot day. As a result these gooseberries had started to ferment and you could smell them two hundred yards away.

That patch was in the open. We have another patch of the Whitesmith variety in the peach orchard planted in the rows, and on account of the shade afforded by these peach trees the crop was entirely saved. We have also found that by planting under the trees the bushes will become larger; the picking of them is much more agreeable because you do not have to get out in the sun, and it is certainly not a very pleasant job picking berries with a hot sun beating directly down. We have found it satisfactory to have them planted in the peach orchard. It is done very easily and it does not interfere with the cultivation. The rows can be cultivated lengthwise when the peach orchard is cultivated, and cultivated crosswise with the spring tooth cultivator. This does not mean any extra work, and the fertilizer applied for the gooseberries does not lessen the peach crop. This peach orchard which I have mentioned as having the gooseberries planted there also, did not suffer very much when we got an average of 13 baskets of peaches per tree.

It is my experience that the English gooseberries thrive best on a sandy loam soil, while peaches must have a soil of a heavier nature. In this particular peach orchard, where we have the gooseberries, there is a sandy loam streak running through the centre from east to west. You can tell the difference in the soil just as soon as you look at the orchard.

While these gooseberries should have a soil of a sandy nature the American gooseberries can be planted on soil of a somewhat heavier texture. As with currants the soil for gooseberries must be well drained and of a retentive nature. Gooseberries, the same as currants, leaf out early in the spring; it is absolutely necessary to get on the soil early, so that the plants will not receive a setback by late cultivation. It is the practice of some growers to use a mulch system with gooseberries and this conserves the moisture and keeps down weeds and prevents mildew, but the use of the mulch has largely disappeared of recent years.

One of the most important things in connection with gooseberry culture is spraying. We can almost control mildew with good spraying. A mulch system in comparison with spraying is very expensive. Generally straw is used for the mulch, but in some cases I have used tan bark, but that is out of the question at the present time. Straw is too expensive to put on as thickly as the patch should be mulched—about four inches and better, six inches thick if you can.

A Member: Would sawdust do for that purpose?

Mr. Henry: Sawdust would work all right, but it is hard to get these days for putting on such a large area.

The English gooseberries are not propagated to any extent in this country, as it is very hard to get the plants to ripen properly. In the United States they are propagated by mound-layering. This mound-layering consists of plowing up to the bush after the young shoots have started into growth, which is in June. In this orchard which is plowed up the young shoots root and they are left on the stools for a year or two years. American varieties leaf out after a year and English varieties after two years. They are then cut and some men plant and set out in a nursery row, and leave them for another year so that they make really good plants after this treatment, having a good fibrous root system.

In choosing a plant we must look for one with a large fibrous root system and with a thrifty top on it. There is no use in using a cutting from a root; you are sure to be caught, as such plants never thrive.

Although American varieties can be produced from cuttings, the method by which the best plants are produced is that of mound-layering; that is the method most largely used.

Planting: The same method of planting gooseberries may be used as for planting currants, and speaking for the Niagara district, the fall planting is certainly the best. In northern districts it might be safer to plant in the early spring, but I do not see any good reason why they should not be planted out in the fall, even in a northern climate, provided, of course, that they are covered up with straw or manure to prevent heaving during the winter, and also to protect them from the cold.

The same method of laying out and planting a currant patch may be used for gooseberries. For English gooseberries the distances should be about 10 by 4 feet or 10 by 6 feet; this space is to allow the power sprayer to go between the rows. Of course a few do not use power sprayers, and in that case you could use a space slightly closer, or about 7 by 4 feet, or even in some patches 5 by 5 feet. It depends on the conditions under which you intend to grow and cultivate them in future years; there should never be less than 4 feet between the plants. These distances may seem large when the plant is started, but they fill up a great deal as the bush grows. Now, if you intend to plant out gooseberries under trees, let us suppose that the trees are planted 20 feet apart. Plant two bushes between each two trees, making these 6½ feet from each tree, with a 7 foot space in the centre. This gives you more room than when planted in the open, but they will grow to larger bushes when planted in the shade. I am allowing considerable space but you will find that you need it.

Pruning: The pruning of gooseberries is a rather difficult problem, in fact I do not know that very many people understand it fully. We once had an Englishman who understood all about English gooseberries; he undertook to prune our patch so that it would bear heavily. He went to work and pruned it and next year the crop was considerably decreased and also the next year following that again it was lessened, so we came to the conclusion that he did not know what he was doing. His idea was that gooseberries are borne on the previous year's growth, something like a quince; but gooseberries are borne on two-year-old wood, and in pruning we must try to develop as much of this two year old wood as possible. Young shoots should be cut back for say about one half their growth, so as to develop fruit blooms all down the stems. If this is not done—we find it is the case with currants, too—the fruit buds will develop more towards the end, and as the years go on the growth will not become as vigorous as if the bush had been cut back each year. It is not good practice to leave the bushes without cutting for two years. A far better plan is to cut back a little every year, and so get that much more vigor into the plant. Of course all broken branches, and those that are too close to the ground, should be taken out as they are detrimental to the development of the plant and will tend to make the fruit very dirty.

It is a mistake to thin out a gooseberry bush too much, as it allows the sunlight in. We do not prune gooseberry bushes on the same plan that we prune an apple tree; we don't want any more sunlight than we can help. Gooseberries, as I have already said, are very easily scalded, and we can get good fruit without

having the sun shining on them all the time. With English gooseberries, leave about five or six good bearing canes and we should have five or six more heavy shoots coming on at the same time to take the place of the old canes which are to be cut out. As a rule one or two old canes should be cut out every year. When the canes are about five years old the berries become small and they will not produce as heavy or as satisfactory a crop as young and vigorous bearing branches will.

Now, as to the different varieties of gooseberries. The principal English varieties are Industry, Lancashire Lad, Crown Bob, Keepsake, and Whitesmith. The Industry is a very strong growing bush; the berry is oblong, large and red when it is ripe. But they are generally picked green, and is altogether a very satisfactory variety to plant—one of the best.

Crown Bob is considered very good by some, but we do not think very much of it. We had about 600 bushes once; we left them for about four years and then took them all out. The reason for this was that a week or so before we got the crop off we found leaves all dropping off. This was not because they were attacked by any disease that I know of, because gooseberries of other varieties growing right alongside of them held their leaves right along. Another reason is that they never bear nearly so heavily as other varieties which we had, and we did not find them profitable. They are red, rather large, and also hairy.

Lancashire Lad is another red berry, roundish in form and smooth. Keepsake is a greenish yellow gooseberry; it is not so well known as Whitesmith in this country, but is a very promising variety withal; it is a very strong and vigorous grower.

Whitesmith is, in my opinion, the best gooseberry — English gooseberry — that we have. It is a large berry, it is extremely nice, being a greenish white berry, and the veins are very plainly marked; the berry is smooth and of an oblong form. The bush is very vigorous, throwing out young shoots every year in old bearing branches.

There are various varieties of American gooseberries, some of which I will mention. I will take what I consider the three best—the Pearl, Downing, and Smith's Improved. The Pearl is considered by a great many to be the very best American variety. It is a good vigorous grower, a white berry and the veins are clearly marked, and it has a brownish bloom. The Downing is very similar, and in some sections it is just as good a berry as the Pearl. The Smith's Improved is a variety propagated very largely on the other side; it is well recommended by American growers and it is grown now quite a bit in Ontario, but it is not as well known as the Pearl and Downing.

A MEMBER: What about the Red Jacket?

MR. HENRY: The Josselyn or Red Jacket? Well, it is a very good berry, but it is not as good a variety as any of the other three I have mentioned. I have only named the three because I do not want to mix them up, and, as you know, there is an interminable list of varieties.

A MEMBER: I think you could give it second place?

MR. HENRY: Well, of course, that is a matter of opinion. The Red Jacket or Josselyn is considered by some to be the best, but there is very little difference between it and some other varieties I have not mentioned.

A MEMBER: What is your objection to it?

MR. HENRY: My objection to it is that it is not as productive, as far as my experience goes, as the Pearl, for instance.

A MEMBER: Do you put the Pearl first?

MR. HENRY: Yes. The other varieties do not hold their leaves as well.

A MEMBER: Cannot you hold the leaves in the other varieties by spraying them as well?

MR. HENRY: Well, of course there are a great many differences of opinion as to the best varieties, in fact more different opinions than there are varieties, and as I was saying there are perhaps fifty American varieties that are thought well of in their locality, but I just picked out these three knowing them to be very good varieties to plant.

Picking: The picking problem is getting to be a very serious one in nearly every district, especially to a grower who has large quantities of small fruits. A grower who has a line of fruit commencing with gooseberries and ending up with blackberries can obtain a number of pickers and keep them right through the seasons with very little difficulty; but the man who has a small quantity and of varieties that do not require the services of the pickers through the whole season will find he is often up against it in obtaining pickers, as they have not steady work through the whole year. A large grower can obtain Indians from different sources and keep them right on the farm, and that is the practice with a great many men. They find when they want pickers they are there. The Indians knowing they can have two months' steady work are ready to come back next year, and the grower is in that way very much benefitted by having a variety of fruits following one another in stage of development and extending over the whole season.

A MEMBER: We have tried Indians and they were not satisfactory; they went away.

MR. HENRY: Why did the Indians go away?

A MEMBER: Because they did not want to work steadily.

MR. HENRY: One gentleman here says the Indians will not work steadily; we have not found that to be the case in our district. Sometimes Indians rove around from one patch to another, but we have found them to be very satisfactory berry pickers.

A MEMBER: They will have all their money spent by the following morning.

MR. HENRY: We use a system of books. Every night we give them books in which to enter what they have picked that day, and they get them cashed when they want it. Bringing them from the Reserve, we pay their fares and deduct it from their books, but if they stay the whole season we make an equivalent addition to their books. We have found the book system a very good one. Other people use a punch card and that is also a good system, but I do not know that I would advise paying the Indians over night in cash.

The price for picking red currants is usually 15 cents a basket; if they pick in crates it is generally a cent a box and pickers can make fairly good money on this basis. The price for the fruit varies quite a deal from 35 cents to 40 cents.

Gooseberries are picked at 15 cents for 11-quart basket, and as the crop is generally pretty uniform they can make good money. From about 12 to 15 baskets a day is a very good average for a picker.

INSECT PESTS.

In some patches that have been more or less neglected San José Scale has become very bad. Especially is this the case with black currants, and it is rather hard to control, because the branches are so close together, so that the spray does not get at them thoroughly. The bushes should therefore be well sprung out in

pruning. The plants should be well pruned out and all the branches which are badly attacked cut out and burned and then the bushes should be sprayed thoroughly, that is after the pruning has been done, and the bush is more open to receive the spray. There should be no difficulty in controlling the scale and wiping it right out. We have had a number of apple and peach orchards fairly badly infested. We pruned them out, all the badly infested branches, and used lime-sulphur spray fairly strong.

Green Aphids are sometimes very bad, on red currants particularly. These little plant lice are found underneath the leaves, causing the leaves to become very badly discolored and curled—a yellowish green color. They are sometimes so bad, and curl the leaves to such an extent, that you can scarcely see anything of the aphids, and it is almost impossible to get at them with any spray. They will get on the bushes in the early spring. About the time the buds are bursting is the time to spray the plant. Spraying them at that time with kerosene emulsion, whale oil soap, and with lime-sulphur later on in the spring will kill all the young aphids. If left for a week or so later before the first spray, it is almost impossible to kill them with lime-sulphur, whale oil soap or kerosene emulsion, while if treated a week earlier you will, as I say, kill all the young aphids. After the leaves come out, if you do not notice them before, if you see aphids on the leaves spray them then with such sprays as I have mentioned, but it is useless to spray them when the leaves have started to curl, as the spray will not reach the aphids. This insect must be killed by contact with the poison and if you are unable to reach them with the spray it is useless using it.

The currant worm sometimes causes a lot of damage. This last year it was rather bad in a gooseberry patch I know of, almost entirely defoliating some bushes. It also attacked some red currant bushes. The insect spends the winter in the ground, and in the spring it comes out and the female adults lay eggs on the under side of the leaves, glueing the eggs to the leaves. If you look for them when the leaves are well out you will notice little greenish white eggs glued all along the leaves on the under side. These hatch out into a greenish white little worm which rapidly grows, and all the time is feeding. As it grows it becomes more voracious, and if it gets very bad it will eat all the leaves off a bush. When the worm is full grown it is about three-quarters of an inch long and a kind of greenish yellow color. It goes down in the ground and pupates and about the latter end of June it attacks the bushes again. This attack is usually the worst, as by this time the worms have become much more numerous. However, it is very easily controlled. The only spray necessary for this worm is arsenate of lead. Have this thoroughly put on at the time the worms are first noticed on the bushes and you do not need to worry any further, as this spray will thoroughly clean out these insects.

The American Currant borer is another insect which causes a great deal of damage. The adult is a club-winged moth, the little worm or grub which does the damage is a kind of yellowish white color with a black head, about half an inch or perhaps a little longer. The adult lays its eggs on the leaf and then crawls back and feeds on the cane, attacking the older canes worst. It spends the winter at the bottom of the plant, and in the spring it pupates and comes out again. The best way to determine if the old canes and branches have been attacked is to examine them closely, and if attacked you will notice a sickly, unhealthy looking yellowish tinge on the leaves of the plant. These branches that are affected should be cut out and burned. The only thing we can do, since there is no

method of spraying which will control this insect, is to watch for their appearance on the branches, and then by careful pruning out and burning of the diseased branches, we may eradicate them. If this practice is followed there is not much danger of the insect becoming very serious.

There are other insects which attack currants, such as the four line leaf beetle, but they are not considered important in their injury of currants.

Then there is the Red Spider, but I have never seen an attack from this insect. Have you, Mr. Caesar?

Mr. Caesar: Yes, it is very common. The best thing to be done if found would be to use lime-sulphur, sp. gr. 1.008, applied to the under side of the leaves.

Diseases.

The only diseases of importance are the Currant Anthracnose, Gooseberry Mildew, and Red Currant Leaf Spot, which attacks the leaves in the form of a clear spot, very brown looking, somewhat large, and there may be spots of grey also, and you will notice little black specks which produce the fungus. It sometimes becomes very bad, causing the bushes to become entirely defoliated. It can be destroyed by spraying with lime-sulphur, specific gravity 1.009; that is the same spray that they use for the first summer spraying.

Currant Anthracnose looks very much like the Currant Leaf Spot. In this disease you will notice a little brown spot, and if the leaf is badly attacked the whole leaf becomes brown. As with the other disease this disease can be controlled by spraying a little after the fruit sets with lime-sulphur, so that one spraying will do for the two diseases. As well as attacking currants it is sometimes found on gooseberries.

The most serious disease we have to deal with is the gooseberry mildew. Besides attacking the fruit of the gooseberry, it also attacks the leaves, stamens and young shoots of the currants, sometimes causing the growth to become spotted and very yellow. The gooseberry mildew up to a few years ago was thought to be very hard to control, but it is now considered as a disease which we can almost eradicate, and clean gooseberries are now the rule. The first spraying should be put on in the winter, using the ordinary winter spray of lime-sulphur. It is best put on just before or about the time the buds are bursting. The bushes should be sprayed again just before the blossoms open with lime-sulphur at a specific gravity of 1.009; just the same strength at which you use lime-sulphur for the Codling Moth spray. Then to make a complete job you should spray the bushes thoroughly again about three weeks later when the gooseberries become about the size of marbles. That is when about half an inch across or a little smaller they should be sprayed again with a spray 1.008 which is a little weaker, and if it is done thoroughly you will find there is not much trouble from mildew, in fact we have found we can thoroughly control it, and before we started to spray, mildew was very bad.

A Member: What yield of gooseberries did you get per acre, on an average?

Mr. Henry: I could not tell you to the acre. We have about 3,000 bushes, and last year we got 680 baskets. A Whitesmith patch of only 600 bushes averaged 6 quarts to the bush; that is, 300 baskets, about. The other patch which consists of Industry and Lancashire Lad averaged 3 quarts to the bush; that is a patch which is in the open, and we consider that patch would do much better if it were in the shade.

CANADIAN MARKETS.

ROBERT THOMPSON, ST. CATHARINES.

The question of markets is a pretty serious one. Our President referred to it yesterday in a rather pessimistic mood. He thought we had about as many apples and more peaches than we could take care of. In the long line of years that have gone past, and I see a man before me who was in the business long before I was, I am taken back some forty-three years, for I started forty-four years ago. Not very many years after I started growing grapes, for that was one of the first crops I grew, a man was talking to me who was one of the leading growers at that time. He was a man who grew as many grapes as were usually grown, for grapes were grown by very few parties then. Mr. Stewart and other old heads here will bear me out that we were receiving from 10 to 25 cents a pound, and then somewhere in the seventies or a little later 10 cents a pound. This particular grower, who happened to be a friend of mine, did not think farmers ought to plant grapes when we were then beginning to plant them by the acre, as it was taking the business from the gardeners, who were planting only portions of acres here and there along with their garden crops. He got very indignant when I said we could grow them at five cents a pound. Time went very fast, and Prof. Crow when he spoke of the cycles we would have, brought this back to my mind. We have gone through several of them when grapes have got down to $12 a ton. Another time Mr. Bunting and myself bought a carload at 12½ cents per twenty-pound basket, baskets included.

Notwithstanding these low periods you will remember our late President, Mr. Murray Pettit, in a discussion not very many years ago, said that the conclusions were that grapes were as low as they could be grown for. Notwithstanding all this a very large number of growers have continued to plant grapes, and are keeping right on at it, as well as new growers coming into competition, knowing that prices would always change, that one year we would have low prices, and then a period, perhaps, of high prices. That was what Mr. Pettit said. There has been a change even in grapes. We have not experienced the crops of four or five years ago. We will always have these lower and higher prices, and the man that gives up when the prices are low in any line, and will plant whatever line of fruit that is high at that time will always be the under dog. He will always be planting when prices are high and his orchard coming into bearing when prices are low. If a man is an apple grower he should set right out to grow apples no matter what the price; and if a grape grower, then grapes or whatever the land is suited for. He may choose to grow several lines of fruit, and by starting in a small way and learning the business as he goes along he will find that worth a great deal.

In the securing of markets my experience goes back forty years. Another fact I have noticed is this: In periods of low prices the public are induced to take the fruit because it is at such a low price, and this extends the business so that the next few years they keep on taking the fruit no matter what the prices may be; that creates a market. Prices are going to be low, and they are going to be high, and we must expect that. The fruit business is in as good shape now as it ever has been, and we want to look after it and see that it remains so or advances.

I use the word Canadian markets in regard to all the fruit that is grown in that section of the country I represent, although in speaking particularly of apples,

I may say that we get rid of our fall apples in the same markets as we get rid of our grapes, plums, peaches, and other fruits: that remark applies as well to winter apples. There is a market for our apples in the Northwest, if they were placed there in the hands of the people who want them, without too much middlemen's profit, and if we can let these people know where our apples are to be had. Under these conditions there is a population in the Northwest to eat all the apples we can grow for years to come.

The first of our Canadian markets is the Province of Ontario, while at present large quantities of the tender fruits are shipped to the principal towns and smaller lots to the small villages. This market could be greatly increased by shipping from three to five tons to the smaller towns and villages say once, twice or three times each week by freight. The fruit would arrive in better shape, less expense and retailers could afford to sell to their customers at less profits because of the greater quantities handled and less loss. The larger towns and cities could take car lots. If our large growers and shippers would follow out some such system the quantities consumed in Ontario could easily be doubled and even quadrupled. The second market is our lower provinces, and these have not been supplied to any extent. There are only one or two of our large shippers that have been sending any quantity of fruit down east. Very few others have bothered with it; this market has never been properly worked. We do not realize that we can ship to them. There are many large villages and towns in these provinces that scarcely ever see a Canadian peach or grape. The shippers do not have to lower their prices in proportion to the lowering of prices in the Ontario market. The third market is the Canadian Northwest. I have felt annoyed time and again in reading statements in our own papers from people coming back after visiting the prairie provinces. They have listened to statements made to them by those interested in the American houses or branches of that firm established in every large city and town in the West. These firms are interested in bringing in and selling fruit from the Western States, and of course knock Canadian fruit every time they get a chance. They want from two to three hundred dollars' profit on every car they handle. They will tell you that this is the case without any hesitation, and try to make you think that it is nothing out of the way. I have known them to want a profit of one dollar a box on pears. Now after these jobbers have sold the carload of fruit to the wholesaler, the wholesaler sold to the retailer, the retailer again to the consumer, each has to have their profit in proportion to what the jobber charges. This in many cases has made the fruit prohibitive to a large class of people out there, and this is why we have not been shipping more fruit to the Northwest. We have, of course, outside of these American houses a number of firms friendly to Canadian fruit. They buy whenever they can from Nova Scotia, British Columbia and Ontario, and their sympathies as well as the sympathy of the majority of the people in the Northwest are with the Canadian people.

We sometimes hear complaints from customers out there of fruit that has been poorly packed. This may be due to several causes; first, the fruit may have been picked a little too ripe, but owing to poor transportation facilities cars do not arrive in time, and even when properly picked and packed owing to excessive delays the cars may arrive in bad shape; but the proportion of fruit that is badly packed is very small in proportion to the fruit that is sent out with which no fault could be found. Whenever a Canadian dealer out there has had one or two cars of Ontario fruit you want to hang on to that dealer and supply him with what he wants. I wish to refer particularly now to boxed apples. Saskatchewan

and Alberta want our apples in boxes, and in this connection I am pleased to see the progress made in boxing by our Ontario growers. Three years ago the directors talked of getting up three hundred box lots for prizes at the Exhibition. The majority of the directors did not think it wise to give a prize for three hundred box lots. Well, a prize was given this year for three hundred box lots, and out in the Transportation building there are three hundred box exhibits that will compare favorably with those from any part of the world—just as good as any from British Columbia or the Western States—and I wish our press that has been praising Western methods of packing would come and inspect the products of the Ontario packers as exhibited in the Transportation building and then give them credit and help us to come into our own. The conditions as far as our exhibitors are concerned are different from those of British Columbia or the Western States. The majority of the people in the West who are growing or shipping fruit have land to sell; they are controlled by syndicates there; nearly every man has a price on his farm and they spend time and money gathering fruit to make exhibits. Our people are too busy in gathering and packing their fruit. They are busy men who get up our exhibits, and all honor should be given them for the time they have spent in helping to keep Ontario fruit in the front.

I think I have a right to speak with some confidence when I give you this information, viz., that the St. Catharines Cold Storage Company has been giving this western market special attention for over ten years, that the shipments have increased year by year until in the past season we sent out to the West 178 carloads, containing 2,430 boxes and 44,480 baskets of peaches, 91,450 packages of tomatoes, 1,550 boxes and 58,220 baskets of pears, 860 boxes and 10,300 baskets of apples, 57,530 packages of plums, 1,460 baskets peppers, 1,200 baskets of crabs, 1,570 baskets of quinces, 149,400 packages of grapes, besides several hundred baskets each of egg plants, onions, cucumbers, beans, melons, black and red currants, cherries and gooseberries, making a total of 423,320 packages or very nearly one-third of the total shipments from the companies' shippers. If Ontario is not holding her own, then all I have to say is that this company is steadily shipping more each year. We have been selling to the same firms year after year, and at the end of each season very flattering letters are received from purchasers of these cars in the West.

Now, I wish to make myself clear. While I say that the West presents a great opening for Ontario fruit, and while this Company has made a great success in supplying a portion of their wants, it has been accomplished only after years of patient watching.

The only way that shipments to the West can be successful is for a number of growers to arrange to plant the varieties that will carry well, to agree in the early part of the season that they will pick their fruit at the proper stage of ripeness, to furnish a stated regular supply, have it properly packed, placed in good cars that have been well cooled, and see that these cars are loaded so that the fruit will carry safely. If this is done, then all of the Niagara District will not furnish too much fruit. The railways will then give us regular or special fruit trains making the trip as far as Winnipeg in from 3 to 4 days, and more rapid and cheaper transportation to more western cities and towns.

Of the shipments I have mentioned about one-half were sold by our house in Winnipeg; that is practically as far as we are concerned better almost than direct sales and in dealing through them we got more money out of it than if we had sold directly; the other half was all sold outright. Of course we keep posted on the state of the markets there all the time.

Our western market is a great one, and it will always be there for us. We cannot afford to lose it. We cannot afford to let it fall into the hands of a combine which is strongly against the use of Ontario fruit. I would advise those here who have before this year supplied a western dealer, to send him word that you are prepared to fill his orders. If you do not do this you will lose him, as the syndicate is securing control of all the independent jobbers as fast as it can.

A MEMBER: Do you ship in full cars?

MR. THOMPSON: Not necessarily.

A MEMBER: What is the minimum?

MR. THOMPSON: They have rates less than carload rates, five ton rates. The rate is the smallest matter, the despatch is what we are concerned with more.

A MEMBER: What minimum do they give you for a carload of fruit?

MR. THOMPSON: To the West we have to have ten tons.

A MEMBER: 24,000 pounds is the minimum?

MR. THOMPSON: That is on apples, but on smaller fruits it is 20,000. Where we were selling direct they wanted 20,000 pounds, and sometimes we could not make up the full minimum.

A MEMBER: You have got to pay the freight on the full minimum amount when you get the minimum rate?

MR. THOMPSON: That is what they claim. But I would rather take chances on paying the difference in freight between 18,000 pounds and 20,000 pounds to have the fruit arrive in good condition. In shipping peaches and plums if you go beyond a certain number of tiers high it is liable to damage some of the fruit. I would, of course, like to be at both ends to see the fruit shipped, follow it in transit, and then be at the other end when it arrived. I have seen American fruit shipped under conditions when they packed it beyond a certain number of tiers high and it always spoiled, and we must not load our cars so that there is the slightest chance of the fruit spoiling. It is better to pay for 20,000 pounds and put in only 18,000, and have it arrive in good condition, than it is to put in 20,000 pounds simply to make up the full minimum.

A MEMBER: You spoke about Lake Michigan?

MR. THOMPSON: That is a short cut.

A MEMBER: From where?

MR. THOMPSON: From Grand Haven; it is a regular route.

A MEMBER: How does the time compare with that road and going by the C. P. R.?

MR. THOMPSON: With the C. P. R. we cannot always get cars, and I would rather take six days in making the shipment, and have them regularly, than I would have irregular shipments running from five, six, and seven to eight days for delivery.

A MEMBER: You mean to Winnipeg?

MR. THOMPSON: To Winnipeg. And if you put your fruit in green enough for seven days and it arrives in five days it is too green for market.

MR. JOHN BRODERICK (St. Catharines): What Mr. Thompson has told you to-day in regard to planting is a fact. The man who is going to plant fruit for commercial purposes should plant the fruit that will be required by whoever might be going to superintend the shipping. Then, to come to the interesting question of whether the price is high or low; have confidence enough in your shipper to handle it for you and you will make a success of it.

There is another question I think that is very serious. The question of

what growers of Ontario pay commission men to-day to sell their goods. I have every respect for the commission men, for we are paying then $5,000 a day, but would it not pay us better to find a more direct means of reaching the consumer and thus save to the grower or consumer a large part, if not the whole, of his $5,000 a day?

ADDRESS.

HON. MARTIN BURRELL, MINISTER OF AGRICULTURE, OTTAWA.

I have not come here to make a speech, and I can see the look of relief on your faces when you know you are not going to have a speech from me. Mr. Hodgetts wrote me asking me to address this meeting. I told him I was going to try to get up, but would rather be allowed to wander hither and thither peacefully, shaking hands and renewing acquaintances with as many old friends as I could. This is an association in which I have always taken the deepest interest, and I have been watching especially the many problems that you are facing at the present time. I am particularly glad to see my old friend, Mr. Parker, speak here to the members of the Ontario Fruit Growers' Association, because I think one thing that makes for success is the interchange of ideas between men of Mr. Parker's experience from the different fruit districts; men who have had to deal with the handling of fruit in the broadest sense, and there is no doubt that what has been illustrated here this afternoon as being successfully carried out in one province may similarly prove a success in another province.

Now, I would not care to take my seat again without just touching on the work you are carrying on. As you all know I am speaking now as a fruit grower. There are two or three classes of problems that we have to face if we are going to be successful in our business. The first is possibly to produce a kind of fruit that every purchaser will want, and then when we have done that to get our orchards into shape to produce a first class yield. Secondly, to put it up in such a way that it will stand the handling it must before it reaches the market, and at the same time put it up in such a way that it will appeal to the most epicurean taste; that having once gained a purchaser we will be able to retain him. These questions of producing and marketing will always be great problems. It is most gratifying to know at any rate that you are surmounting so many of the difficulties that face you both in production and marketing. I think you all recognize, too, the fact that the Government is trying to do everything it can to advance the interests not only of the agriculturists but of the horticulturists.

Now, as to packing, I want to say just one or two words of congratulation. You are all practical fruit growers, and are making very marked progress from year to year. I am referring to box packing, for that is the only packing we are concerned with in the West. I had the pleasure, I think three years ago, of attending an exhibit held down in the old St. Lawrence market, when, I think, probably you made your first fairly large attempt to exhibit box packing, and the difference between that exhibit and what you are exhibiting to-day is very marked. I have no doubt that I shall even find an improvement in the packing of this year over last. Perhaps one looks on these things somewhat critically. We have had competition in British Columbia from the nearby Western States, and that has improved our methods. The achievement of the Province of Ontario along the packing line is such that I consider the heartiest congratulations are

due you for the class of packing you are now putting out; the uniform fairness with which the apples are put up. I examined some of the packing, and I did not go to the bottom layers because I am satisfied of the uniform quality of the pack.

In regard to the other questions that come up from time to time, and on which now and then the Government can help you to meet competition fairly in your own market, I think many of you here know we were striving very hard to amend our Fruit Marks Act. Mr. Parker has touched on these things and the subject of co-operation, and there will always be problems coming to the front that you will have to deal with. Well, we did think we could help you, and we succeeded, and that in the face of every kind of opposition, not from fruit growers, but from gentlemen who are not interested in fruit growing. All we did was to see that every consumer in the North-west when he bought a package of apples should know what he was buying. We altered the Fruit Marks Act, and on the whole I am prepared to say from our experience in the Northwest this year, that there has not been any very great complaint. There is a marked increase in the numbers of American competitors who have entered our markets, and we are making them live up to the statutory requirements of Canada. After all, all we did was to see that every consumer in the Northwest when he bought a package of apples would know what he was buying; that anything sold in that market would be sold under uniform conditions.

Now, as to transportation problems. You gentlemen know just as much, and perhaps more than I do, but I believe, and always did believe, that just as soon as the growers can show that the traffic is such that it will pay the railways to equip their road with facilities that will handle all you can produce in such a way that it will be landed in the markets in the best possible condition, I believe the transportation companies will meet every reasonable request put up to them. I believe a very fair attempt on behalf of the big transportation companies to meet the changing conditions has been made; they have met the demands made upon them in a very fair spirit, and that just as soon as the growers can show that the traffic is such that it will pay the railways to equip their road especially for handling this class of goods they will do so.

Let me again thank you and say to my old friends in the Ontario Fruit Growers' Association, and to those I do not know personally, but know as members of the Association, I wish you again the most hearty success in all your efforts. I can assure you of the hearty co-operation of the Department of Agriculture, and any assistance that I may be able to give you.

Mr. Dempsey: We have another old friend here that we are always pleased to hear, and I hope he will speak to us for a few minutes now. I have much pleasure in introducing Mr. C. C. James.

Mr. C. C. James: For many reasons I would not at this time at all presume to take up your time. You gave the Minister of Agriculture fair warning, but you did not give me any. At the same time I could not possibly deny myself the pleasure of acceding to your request if only to wish you well. As I look around this gathering I see men whom I knew in this Association at least twenty-five years ago, and they have been pretty faithful members all through these long years. Looking back, however, it does not seem so very long. As I said when I look around and see men who have been here for twenty-five years they must think with me of the vast amount that has been accomplished. As the Minister said no one could look on the exhibit in the Horticultural Building

without knowing that it had taken years, that it was the work of many years. Some of you men who have laboured so long and so faithfully in this organization will perhaps have your work recognized by the fruit growers of this Province if not by the public. I have no speech prepared and it would be presumption on my part to talk generalities. I will simply say again, in the words of the Minister, that I wish you well in your work and trust that the members of this Association will prosper in the future as they have done in the past, and that each succeeding year may see some advance, some step forward in the interests of the Association.

Mr. J. A. Ruddick (Ottawa): I am not going to attempt to make a speech, but I just want to say a word or two on one or two points. First, I think this Association at this meeting should appoint delegates for the next Dominion Conference of Fruit Growers. It has been suggested that the next Dominion Conference should be held in the fruit season, and in a fruit growing district, and as far as I have mentioned that to fruit growers in different parts of the country it has met with their approval. I think if you could be sure of attracting a gathering of prominent fruit growers from different parts of the country into one of the principal districts where they could get out through the orchards and see the work that is going on and get enlightenment in that way, that it would be a considerable help. There is no reason why the conference should be held at Ottawa as it always has been in the past. I would like to have an expression of opinion on that point from the growers interested.

STRAWBERRY CULTURE.

Prof. J. W. Crow, O.A.C., Guelph.

There are a few points in the practice of some of the best strawberry growers which probably it would be well to bring to the attention of the growers in general. The *average* commercial practice could no doubt be vastly improved.

The question of variety in strawberry culture is one which seems to be settled according to the district or locality. I was talking with Mr. Bunting yesterday afternoon on the subject of varieties and I have a fair idea of what he was going to say. The variety grown most largely is the Williams. It is very vigorous, and is very largely grown for shipments to points outside the district. It is a very firm berry, gives an excellent yield, of first class keeping quality, and forms the leading variety of the entire Niagara section; in that district it does seem to thrive extremely well; in other districts it is not so satisfactory. In Norfolk County, Mr. James E. Johnston, who grows strawberries successfully, uses a very large proportion of Sample, and counts it one of the best varieties. Now, the Williams does not seem to do at all well in Norfolk County; it may be on account of the soil, as the Williams is not satisfactory at Guelph, and has never given anything more than a very ordinary yield under our conditions. The variety which does best with all things considered from the standpoint of general market value with us is the Parson's Beauty, and wherever that variety has been tried—at least so far as I know, it has always given excellent satisfaction. I do not know that in the Niagara district it would outyield the Williams, probably it would not; but with us it yields twice as much. I do not think it is the same as the Gibson, but I believe the berry grown in the Oakville district as a Gibson is the Parsons. So far as I can see they are much the same.

A MEMBER: What would you name as the distinguishing feature?

PROF. CROW: Well, I do not know that I can give it to you offhand. The berry they grow in the Oakville district is very like the Parsons.

A MEMBER: It would be very helpful if we could find out the distinguishing features.

MR. DEMPSEY: It is a point that I have been trying to clear up and as far as I have been able to learn what the Oakville growers call the Gibson is the Parson's Beauty.

PROF. CROW: It is a very satisfactory berry and gives a very satisfactory yield. Wherever the Parson's Beauty has been tried it has been found to be a very heavy cropper and an exceeding vigorous plant. Very hardy; it will stand more wet, more cold, more rain, and will stand bad conditions in general, better than any other variety which we have got, and it will outyield any of the others.

A MEMBER: Has it a good colour?

PROF. CROW: It has a perfect flower, is an extremely vigorous plant, a large yielding variety; the colour is not so pronounced, but is medium.

A MEMBER: How does it compare for development?

PROF. CROW: It is rather late.

If you have a district which grows Williams satisfactorily, as it is grown, for instance, in the Niagara District, you would find it hard to beat. The Williams as grown in the Niagara district at its best will yield all the way up to 10,000 and 15,000 boxes per acre, and some records have gone beyond that. It is doing fairly well, I think, where it is grown on a large scale.

There is one point in particular regarding strawberries, which, I think, should be emphasized and that is the question of manures and fertilizers. The strawberry is a plant that will give returns without a very large amount of fertilizers. We do not, as fruit growers generally, feed our plants enough and as far as the strawberries are concerned we often consider it just as well to let them take care of themselves in this respect. This attitude is taken with regard to strawberries possibly more than it is with any other fruit. The strawberry is a plant which will respond to a liberal application of fertilizer. If you are going to go in for strawberry culture the one important thing you have got to aim at is a larger and better yield of crop. To put thirty, or forty, or fifty acres under strawberries is wholesale strawberry culture, and the crop per acre would not be as large as where you devoted your energies to a smaller area; it would simply be out of the question to get a big yield per acre with that acreage. I prefer a smaller acreage well worked, and supplied with plenty of fertilizer. Strawberries will stand heavy applications of stable manure, and by heavy I mean all the way up to 15 tons per acre, and in the mineral fertilizers probably acid phosphate, or bone meal, and muriate of potash. Some growers are using a complete mixture of these fertilizers at the rate of say 1,000 to 1,200 pounds per acre for strawberries; and that is not too large. Yesterday morning, after my address on apples, a fruit grower from Queenston was speaking to me about fertilizers for peaches. I gave you some figures for applications of fertilizers to cherries as 800 pounds per acre. This fruit grower tells me that in peach culture he has used 1,200 pounds per acre of commercial fertilizer; that is to say, home mixed fertilizer in addition to a large quantity of stable manure. Now, I simply give you that to follow up what was stated yesterday as applying right here in connection with

the application of fertilizers to strawberries. Strawberries will, as I have already stated, stand very heavy feeding.

A MEMBER: It would be very much harder to keep the patch clean where you are using large quantities of farm yard manure?

PROF. CROW: Well, barnyard manure, of course, carries a good many weed seeds, but the usual practice is to put that barnyard manure on the strawberry ground a year ahead, and the commercial fertilizers go on somewhat later. Some make an application of nitrate of soda just about the beginning of the fruit season. The nitrate of soda is used in order to increase the size of the berry. Application of mixed fertilizers should be made either at the time of the setting of the plants or later.

A MEMBER: When would you make that application to plants in their second year?

PROF. CROW: I would put that on just as soon as the crop is off and when you are working up that patch for the following year.

A MEMBER: Nitrate of soda?

PROF. CROW: I would put on a complete mixture, and there is a good heavy quantity of nitrate of soda in that. As soon as your crop is off you are taking up your beds to get ready for a second crop.

A MEMBER: When would you put your strawberries on sod; with what cultivation?

PROF. CROW: Well, I had better go back to the beginning of my remarks. The usual practice of the best commercial growers who put their strawberries on sod is this: They prefer to cultivate for one season to get rid of the weeds. If they are using stable manure it gives them, too, a chance to kill the weeds which might develop from that source. Then when the plant is well started they will use a little superphosphate and muriate of potash in moderate quantities, I suppose 600 pounds per acre at that time. Then, when the crop is on, some growers apply nitrate of soda in order to bring up the size of the berry at the last of the season. Then I should say, as soon as that crop is off, when you are working up that patch for a second crop, then is the time for the application of fertilizers in order to prepare it for a second crop. I should say when your first crop is off, and you are narrowing down the rows for a second crop, would be the time to use a good heavy application of complete commercial fertilizers and that application should contain, I think, a fair percentage of nitrogen; you cannot apply stable manure on account of the weed seeds and you do not want to encourage any growth of weeds.

A MEMBER: What mulch covering do you put on for the winter?

PROF. CROW: Well, I should prefer to use clean straw.

A MEMBER: We have been using only stable manure and we have been getting too many weed seeds.

PROF. CROW: There is a point there in regard to mulching for the winter. A good many people, I think, put on too much covering. The object in covering strawberries, so far as I can see is not so much to keep the cold out, because the strawberry plant will stand a good deal of hard freezing. The object is to prevent injury to the plants from heaving consequent on alternate freezing and thawing. Then I should say, put on just enough covering, putting it on evenly, to prevent the heaving of the plants from alternate freezing and thawing; that does not mean a covering four inches thick. I would, of course, rather use clean straw in order to avoid weeds.

A MEMBER: Would corn stalks, shredded or cut do?

PROF. CROW: I have never seen them used on a large scale, but I should say shredded corn stalks would work very well.

A MEMBER: How fine do you cut the corn stalks?

PROF. CROW: I suppose experience should guide you in that matter.

A MEMBER: I have used them and put them on thinly with a manure spreader.

PROF. CROW: I should say that shredding would put the corn stalks into better shape for using a mulch than cutting, but cut corn stalks would probably make a fair cover. Of course, everybody cannot have shredded corn stalks, but nearly every one could have cut corn stalks.

Another important matter in regard to strawberry culture is the proper cleaning up of the plantation. I have seen Mr. Bunting at work at that operation, cleaning up an old plantation for another crop. I have also seen that carried on by different methods in different parts of the country. Mr. Bunting's system, is, as I recollect it, to plow a light furrow on either side of the row, throwing the furrow right on the row in plowing away. His practice is to practically cover up the row. Then he goes crosswise with a spiked toothed harrow; that breaks up your furrow slice, and destroys the plant life between the row; that is his plan and it makes, I think, a very satisfactory plan to follow.

A MEMBER: Will that keep the patch clean?

PROF. CROW: It will, provided it is clean to start with.

A MEMBER: Clean in what way?

PROF. CROW: When you have no weeds coming on that will grow up through it. It will eradicate some weeds but it won't work in all cases.

A MEMBER: How are you going to clean it when the land has been formerly sodded to grass and clover?

PROF. CROW: Go through it with a hand hoe.

A MEMBER: Do you practice burning at all?

PROF. CROW: In running the mowing machine over the patch it is well to gather up all the refuse and burn it and in this way you may get rid of a good many weed seeds, but I scarcely think it is generally practiced. Do you do it, Mr. Rittenhouse?

MR. RITTENHOUSE: Sometimes I burn the patch over, but I do not think it is a general practice.

PROF. CROW: Do you pick any weeds during the fruit season?

MR. RITTENHOUSE: We would like to then if we could. The only time we cannot weed successfully is when there is bloom; you can do a great deal of damage by weeding when there is bloom by disturbing it; the weeding should be done before you have the bloom, when the fruit will not be damaged at all. Now, to clean up the patch for another season we are doing all our work by hand. It looks like a lot of labour, but we try to keep our help employed as regularly as possible, and when the picking season is over we do all we can in the weeding line, and that helps us out. We get rid of quite a quantity of material that way and haul it away; then we put in a cultivator and rip the centres up between the rows.

PROF. CROW: Do I understand that you furrow down the row by hand with a hoe?

MR. RITTENHOUSE: Yes.

PROF. CROW: Do you do that in order to keep your people employed?

MR. RITTENHOUSE: We might do it more quickly, but it is not so long a job as you imagine.

A MEMBER: Mr. Rittenhouse has the same trouble as myself. You cannot work every place by the same methods. I had one man to help me, and I held the plow, as I would not trust the ordinary help to plow these furrows. If they were not qualified or particularly careful they would be very apt to destroy them. To put them in with a hoe cost a little more. And now as to the method of cleaning up. Cleaning up a patch depends on what it is going to cost you whether it will pay or not. We have figured on about two acres of what it costs to cultivate it, I mean with hand work. It costs us in the neighbourhood of $30. I would not consider that a very extravagant expense for cleaning up two acres, which yielded last year about 800 crates of strawberries, and we have it in good shape for next year.

A MEMBER: How do you treat the plants until they come into bearing?

MR. RITTENHOUSE: The first year's growth is clean cultivation and lots of hand labor in the shape of hand hoe. Some growers hoe their strawberry plantations by hand as much as seven or eight times during a season, and that is quite a lot, but they need it.

A MEMBER: They need it. I might say one of my neighbours cleaned his strawberry patch this year in this way. He had 1½ or 1¾ acres of old plants starting a very fair patch of berries; they were nice and clean, and when through with them he just runs a mower over it, rakes the leaves up and takes them away and there is very little work to do.

PROF. CROW: Where did he throw the furrow, on the row or away from the row?

MR. THOMPSON: He plowed away from the row and then cultivated them down; it took very little labour.

A MEMBER: Then did he hoe in the row?

MR. THOMPSON: Yes, he hoed them out. He then plowed them over; that is better than mowing and better than cultivating. You can clean up thoroughly by going up one row and down another.

A MEMBER: Can you explain that method?

MR. THOMPSON: As I understand it, you plow say a 3-inch furrow on each side away from the row you have got on the land side on each side of that row. You cultivate thoroughly; going over the area three or four times with a cultivator. I have followed out this general plan exactly of hoeing and then cultivating. The soil makes all the difference, and in some cases you have to dispense with the hoe, as by its use you would pull everything to pieces.

PROF. CROW: There is no doubt a good deal in what Mr. Thompson says about the different soils, because in some soils you find it is a pretty difficult matter in some seasons to do the work with a hoe. If you have a soil that is inclined to get hard you will gain more with a judicious use of the plow. Just try it: Run a plow through different patches of soils; hard and soft, dry and moist, and you will be surprised at the difference. The method of cultivation will depend on the nature of the soil. There is one more point in connection with strawberry growing: It is scarcely, I suppose, part of our regular practice at the present time, but would improve conditions to those growing strawberries in a large way, that is the question of irrigation. We have had at Guelph for three or four years a small Skinner irrigation plant, and our experience is that there is only one way by which you can guarantee a regular yield of strawberries or get a crop during

a dry season, and that is by an artificial supply of water during a dry season. In four years out of five we have had, as you know, a spell of dry weather, and that irrigation plant has increased our yield, in that dry spell, from 25 to 50 per cent. or more. Now we usually get a crop of strawberries amounting to 300 or 400 or 500 crates per acre, and the addition of this 10 per cent. is a very serious matter, and a reduction of 25 to 50 per cent. of your crop does away with your profits. I suppose if a grower could get water without too much expense it would pay to install an irrigation system even for a moderate sized acreage.

A MEMBER: What is the cost per acre?

PROF. CROW: I cannot give it to you probably the way you want it, but I can give it to you in a sense. The best system, so far as I can see, for the use of strawberries is the overhead sprinkling system. Strawberries might be watered by allowing the supply to run down the furrows, but that takes a larger quantity of water and is apt to break up the furrow. We get the best results from turning on our overhead sprinkler system say for two or three hours each day, that does not use any large quantity of water for it simply sprinkles the plant lightly every day or every second day for two or three hours.

MR. CLEMENT (Macdonald College): As an experiment, this year we erected about 2½ acres and we have it so arranged that we can irrigate 2½ acres of strawberries next year, and that 2½ acre plant cost us $227, if that will be of any assistance to you. We constructed the laterals, and connected the latteral main with the college main.

A MEMBER: Was that for strawberries?

MR. CLEMENT: No, we used it on celery this year, but we will turn it in the opposite direction and irrigate strawberries next year. I will give you our plan. We run 300 feet of latterals from the college main and we divide that into eight or nine hydrants; we put two laterals from each main lateral and we allow the water to run for ten hours.

A MEMBER: Is that surface irrigation?

MR. CLEMENT: That is surface irrigation. We allow the water to run for ten hours, a regular working day before we cut it off; 10,000 gallons of water, and if we wanted to we could run 20,000 gallons a day from each lateral quarter acre; the next day simply transfer these latterals for 300 feet and work the next section and so on, and in this manner we get over an acre in 4 days. We had no rain from the 1st of June till September; in fact, a little less than ¼ inch, and but for the irrigation we could not have done this at all.

PROF. CROW: The water we put on does not actually get into the soil more than one-half inch by sprinkling every day for two or three hours. It keeps up the size of your berries, it keeps the plant from feeling any ill effects of drouth, and my opinion is that the proper application of water used in that way, say every day, will go a long way in the increase of your crop; it will increase your crop many times over.

A MEMBER: Would you put water on right in the hot season?

PROF. CROW: Yes, even on the hottest day.

A MEMBER: Have you any idea of the cost of that plant?

PROF. CROW: Well, if you have your irrigation system, the cost of the irrigation pipes themselves and the nozzles, that is the equipment if you have got your water connection, will probably cost from $70 to $100 per acre.

A MEMBER: What do you do when your strawberry crop is over?

PROF. CROW: You move your irrigation system to wherever you are going to have your strawberry plantation.

A MEMBER: Would that water system have paid this year?

PROF. CROW: Well, I will tell you what that system would have done for us this year if we had known. We had frosts during the blooming season and we did not know enough to use our irrigation system to protect us from frost, but we found by experience this fall what use the sprinkler system might have been to us during these frosts. We turned our irrigation system on at night and we found that the water was a perfect protection against frost on the tomatoes, but I do not know to what extent we could do that on strawberries during the blossoming season. I think it would be safe. I suppose our crop was cut down 60 per cent. by the frosts this year, and we only had light frosts, and I think we could have saved a large proportion of that crop by sprinkling at night; I am quite satisfied we could.

MR. PATERSON: Was the water quite cold?

PROF CROW: No, I think about 54°, that would be the temperature. With a small area, where you have sufficient water, if you have the power, by the proper use of the moisture you could, I am sure, avoid frosts.

A MEMBER: Now we are speaking about moisture; would you recommend the use of salt?

PROF. CROW: I do not think I would recommend the use of salt on strawberries; what is your idea in suggesting the use of salt?

A MEMBER: To help to retain the moisture in the land.

PROF. CROW: That is a new idea to me, to use salt on strawberries. It would retain the moisture, but I do not see how it would increase the supply of moisture for the strawberries. The use of salt on soil would be more likely to take away the moisture than to supply it. For instance, the soil in which the salt is in solution would not readily give up its moisture to the plant. If you add salt to the soil it makes it that much harder for a plant to get moisture. Those are the the actual facts of the case: adding salt to the land helps the land to retain the moisture but not to part with it.

A MEMBER: What do you think of plaster?

PROF. CROW: I do not know that plaster has any effect on the moisture content. If you want to follow the best practice it is continual clean cultivation. I do not know of any point in horticultural practice which is ordinarily more neglected than the simple operation of cultivation: stirring the soil and getting and keeping it in a good state of tilth; that is the best moisture conserver you can use.

A MEMBER: I suppose if you can get water so much the better. We have found the use of salt to give the best results.

PROF. CROW: That is very interesting, but it is a question whether the use of salt increased your supply of moisture. The probability is that the application of salt in that case increased the food supply of the plant. It is a fact that if you use common salt it has the effect of releasing potash in the soil; it has an indirect effect the same as applying potash. Salt will have no effect on the supply of moisture as far as I know.

COLOR ON YOUR FRUIT.

W. F. KYDD, DEPARTMENT OF AGRICULTURE, TORONTO.

This subject that I have been asked to speak upon is one that it seems hard for one in my position to tell about. Anything that I may say along the lines indicated by the title of my address will be said with the hope of getting some of you apple-growers to experiment along these same lines, and if you do so I have no doubt you will get beneficial results.

We apple-growers must admit that color on the apples is of the greatest importance in selling the fruit. What sells one box and one barrel of apples before another is sold? Color. In judging the barrels and boxes of apples in the Transportation Building, what has given certain apples first place instead of second? In almost every case, color? I was in Montreal last week, and I saw boxes of Snows retailing as high as $4. What made them retail for such big money? Color. Then apples of the same size, and the same variety, right alongside, did not sell for more than $2 a box. Why? They were without color. What usually makes an apple a Number 2? Is it because it is scabby or worm-holed? It is usually lack of color.

I was told the other day, by a man in the position to know, that 50 per cent. of the apples coming in for market are No. 1's, and the balance are No. 2's and culls. Now, I do not think there is any trouble at all for any grower to bring his percentage of No. 1's far higher than that. I know of some orchards taken up by the Government in Simcoe County six years ago. They had never been cultivated, pruned or sprayed previously, but the first year they packed 85 per cent. of No. 1's: that is a very big advance over 50 per cent.

We hear that Ontario fruit lacks color. I am comparing Ontario fruit with fruit from the Western States and British Columbia. What makes that fruit of theirs sell so well? Is it the quality? No, it is the color. If a woman is passing along the street and she sees a box of well colored apples in the window she will usually step in and buy the box. With apples the color counts for so much, for the buyer nine times out of ten is going to take a good looking article.

Now, Ontario fruit has been doing very well in competitions. Last August Ontario won first prize at Cleveland, and Ontario has been winning first prizes at Winnipeg in competition with British Columbia. Is it the average specimens that go to these exhibitions? You take this special exhibit that is shown here, and is it a fair specimen of the average output of Ontario? Very far from it in color.

Our apples are said to be very good in flavor. That is always what we hear: it is the flavor of the apples that we brag about in Ontario. Suppose you take a McIntosh grown in British Columbia and a McIntosh grown in Ontario, and you peel these apples and hand them to some authority. I am not so sure that he could tell where they came from. I have eaten Wealthies off the trees in British Columbia, and I have eaten Wealthies off the trees in this country, and the British Columbia Wealthies were mighty good apples. I am not praising up British Columbia and running down Ontario, but I want to put the matter straight before you.

Color is a more important feature than anything else at the present time in the apple industry. Western States apples are getting a footing in our country to a very great extent, particularly in the western markets, and the chief point that

sells them is their color. Also, when they buy these apples from the States that are so carefully graded they know what they are getting. Very often when they get ours they don't know what they are; but if you put up our fruit as attractively and packed as well as they pack theirs they cannot hold the market. At the Winnipeg show this year there were thirty boxes of apples in competition from Ontario, thirty-five boxes of apples in the competition from British Columbia, and after the prizes were awarded these sixty-five boxes were put into one man's hands and disposed of for the Association. The management only asked $3 a box, where they could have sold them for far more money. There were twenty-eight out of the thirty Ontario boxes sold before any one asked the price of British Columbia apples at all. If our apples as a whole were put up as the Ontario apples at the Winnipeg exhibition were put up we could sell any quantity at $3 a box. I do not dread British Columbia competition, and we need not dread competition from the Western States, providing we pack as they do, and get the color on our fruit.

There are a great many things that affect this color; certain districts affect it greatly, you get a damper climate in some parts of Canada than in others. Frost has a great deal to do with it, and cultivation; there are so many things that have an influence with color. Another thing Prof. Crow mentioned yesterday. He said varieties should be planted in certain districts—varieties that will mature in those districts. There are certain varieties you can get plenty of color on in valleys, and others you cannot. I think we try to grow apples in some parts of Ontario where it is far harder to get color than in some other parts. There are different strains of apples: there are some varieties that will color far better than others. Certain apples are of a better color and better shape than others. Climatic conditions have a great deal to do with the shape of apples. Will anyone tell me why the Baldwin, Greening, and McIntosh are longer this year than previous seasons? I could take you to a McIntosh district, and I could show you more McIntosh apples of the pear shape than of the usual McIntosh type. Why is it? There is one man in Amherst who made a careful study of that subject, and his conclusion was that in seasons when the nights are cool following warm days during the blossoming season, for say two weeks, or in any district where that condition of affairs prevails, the apples are longer in shape. There is no doubt something in that theory.

Prof. Crow: Is it not a fact that as you go west the apples are longer; the same varieties grow longer on the Pacific?

Mr. Kydd: I am talking now of Ontario.

Prof. Crow: That condition I speak of is peculiar to the Pacific coast district; you get that as you go east, and it does not matter where you go as long as certain conditions prevail.

Mr. Kydd: I do not believe that you can do anything to affect the color of apples with fertilizer. I have never found anyone prepared to say for a positive fact that the use of fertilizers would affect the color of your fruit; some people say it will do it. I have seen it tried, and I cannot say that I saw any influence of the fertilizer on the color of the fruit. But I do think by pruning and certain methods of cultivation you can influence color, and these are, I think, the only things that color will be influenced by.

A Member: What do you mean by cultivation influencing color?

Mr. Kydd: I said the only way we could influence a color was by pruning and cultivation, and by cultivation I mean sod, which I will deal with shortly. Now pruning must be done to a certain extent before you can get color on your

apples. I do not believe in high trees; lower your trees. I have in mind an orchard that has been pruned successfully, and the top is 6 feet lower than it was before it was pruned. Take a tree of 30 feet, how can you prune that tree? You can take a little off it and gradually work it down. We have got to prune if we would have color on the fruit. Do not take out large branches, but let the sun in. If I were asked how far apart to plant I would advise 35 feet for permanent trees, and never permit them to fill that space, but cut them back. If they are 35 feet apart and most of the branches are 17 feet you will have the limbs dragging and you will have fruit that has no color; is that not so, Mr. President?

MR. DEMPSEY: I do not think so.

MR. KYDD: The President says it is not so and what the President says must be so. (Laughter.)

MR. DEMPSEY: Where will you get or be most likely to get your green Spies?

MR. KYDD: On the limb that bends down. As far as you can keep the limbs up you get color on your apples, wherever they bend down the lower branches are shaded. In cutting off these branches to keep them from bending down you must cut them off at a strong lateral. Remember, you need not do all your pruning at once, but you have got to keep pruning pretty nearly all the time. If you have these great big trees, lower the heads of them. I was in Prince Edward county, and among the trees I noticed was one some 35 feet high, and for over 10 feet of that tree there was not a leaf on it. You cannot spray your trees properly at that height, and it is next to impossible to prune them at all, and there is the greatest difficult in picking them. Bring your trees lower down and cut them back until you have got rid of these overhanging branches.

Now I am coming to a point of my address that I want you to think seriously about. I hope this time next year you will have experimented. We speak of cutting off branches, and the natural question is: Where are you going to cut? I am going to cut these all back (indicating).

PROF. CROW: You would not cut them all off the same distance?

MR. KYDD: Thank you for bringing that up. No, I am not going to cut them off all the same distance, but the object is to have none of your fruit in the shade.

A MEMBER: You said to cut the lower ones back?

MR. KYDD: No; if you cut the lower ones back and left the high branches you would have all the tree practically in the shade, but if you cut the higher ones well back and the lower ones are longer they will all get a certain amount of sunlight.

A MEMBER: How close would you allow these limbs to be?

MR. KYDD: If I had the making of that tree I would like to have it in tiers of branches, spreading out at the bottom and gradually cut back to the top, and where possible have the branches as it were break the joints. For instance, that one would go in between these two (indicating with hand) three tiers of branches on every side of the tree.

A MEMBER: Did you ever try cutting them off in the summer?

MR. KYDD: I think I have tried cutting them off in every month of the year.

A MEMBER: Did you trim them off 10 feet.

MR. KYDD: I have cut that much off the top of a tree. Mr. Stewart says there is nothing but a few apples on the outside. I would like to see apples on this tree clear up to the trunk. They never break down with the load. There is

hardly a fruit spur for eight feet. These limbs should be covered with fruit spurs.

A MEMBER: How about young trees?

MR. KYDD: I am glad we are getting back to trimming young trees. I want to see you getting these trees bearing young. There is another man in here, though, that I think could help you out in that. I have changed my opinion greatly in this apple business. I think any man has a right to change his opinion as soon as he is convinced he is on the wrong track, and I own up that I have made some mistakes. Five or six years ago when I was sent out on this particular work I preached cultivation; we told them you cannot get good results without cultivation; but to-day I think you can cultivate too much. You can get better color without so much cultivation and with much less labor. I have in mind an orchard that has been in sod for the past twenty years and never got the least cultivation or fertilizer. I believe some of us would have better results in clover, if it would stay in clover, but I believe it should be put into some kind of sod, fertilized on top and left in sod and that will help to mulch the orchard. I feel satisfied that with that practice followed out you will get far better color in your apples. Am I right or wrong in that?

A MEMBER: My orchard has been in sod for the past twenty-five years, and I find that the apples are not as large.

MR. KYDD: Mr. Carson says you will not get such large apples. In the usual method of growing trees that has been going on in the past, without any pruning, and without giving the apples any manure, you may not get size, but I believe that if you leave apples in sod and give them plenty of fertilizer the apples will be big enough. I would prune the trees thoroughly, and wherever there were clusters of apples I would thin them.

A MEMBER: Would not the cost of thinning be a large item?

MR. KYDD: A good active man, or a boy old enough and with sufficient intelligence, will thin quite a big tree in two hours, and that is not a very big expense for thinning these apples. Suppose it does cost you a little more you will make it up in the pack of apples, and you will be more likely to have a crop on these trees every year if you thin these apples and prevent the trees from over-bearing. There is no doubt about that. One of the best managed orchards I have ever seen is an orchard in Ontario that has not been plowed for years and years, and the owner gets big crops year after year, and he sells his McIntosh—scabs, worm-holes, and everything—for $1 to $5 per barrel tree run. It is a big thing. Why these men in the east can dispose of their apples as Nos. 1's, with all these things, when we here cannot dispose of ours. But that is not the point. The man is growing McIntosh most successfully, McIntosh apples with good color in them, and he has not put a plow in his orchard for years and years. Take Mr. Gibson's orchard. It is not all in sod, but half his land is in sod and has never been cultivated for a long time. Take Mr. Robinson's orchard. He does not do any cultivating of his trees, but has a strip about six or eight feet wide on which he likes to put manure. As far as I am concerned, I would just as soon have the whole orchard in sod. I find the best colored fruit is usually on land that has not been much cultivated. Of course you take some land, poor land, and I say put all the manure you can on that land and plow it up and get the trees started growing, and after your trees have secured a vigorous growth I think the chances are you will make fully as much money by having them in sod as by cultivation.

A MEMBER: Would it not be necessary to use manure on the sod?

MR. KYDD: Very few orchards get enough manure.

PROF. CROW: Do I understand that you recommend sod in general?

MR. KYDD: No, I want the people to experiment with it.

PROF. CROW: How many orchards do you think would be improved by putting them down in sod permanently; to what extent would you advise the use of sod?

MR. KYDD: I would not recommend it at all except in orchards of good vigorous growth and with perfectly sound trees. I would rather try to bring back a neglected orchard by cultivation than by sod, but where there is an orchard in first-class condition, yielding perhaps good crops, but not of good color, that is the orchard I would put into sod.

PROF. CROW: Not before?

MR. KYDD: No. I would not put it into sod at all. I would try to keep it growing; I would want wood.

PROF. CROW: Would you sow and plow down clover?

MR. KYDD: Yes, in an orchard of that kind I would sow and plow down clover; sow it say in July and plow it down next spring.

PROF. CROW: Would you make any difference in locality?

MR. KYDD: Yes; locality makes a great deal of difference—the difference between heavy and light soil.

A MEMBER: Would you run the mower over that sod?

MR. KYDD: Yes; I would do it several times: when ever it got pretty high I would mow it.

A MEMBER: Would you mow your clover?

MR. KYDD: Yes, I would mow it say after it got a foot high.

A MEMBER: Take an orchard of very poor land, how would you treat it?

MR. KYDD: Well, of course, I do not know how poor it is, but extremely poor land would be better cultivated to keep the moisture in it during the summer. Different land requires different treatment, just as different trees require different treatment. For example, if you have Spies in a northern district where Spies can be successfully grown that is the orchard that should go into sod. If there is anything hateful on this earth it is green Spies. Have you noticed any difference in color in regard to the effect of soil, light and heavy soil, on the color?

A MEMBER: Can you tell?

MR. KYDD: Oh, yes, you can tell. How do I tell? Usually the apples that have been grown on heavier land are of a darker color than the apples grown on light land.

A MEMBER: A darker red?

MR. KYDD: Yes, a darker red.

A MEMBER: That is the effect of heavy land?

MR. KYDD: I think so.

A MEMBER: That applies to most things grown on heavy land?

MR. KYDD: Yes, it is not confined to the influence on the color; I would rather eat apples off clay land. If I had my choice of apples grown on clay land, and the clay land was not wet, and light land, I would sooner eat those grown on the clay land. I think you will have better quality.

A MEMBER: Speaking about peaches growing on clay land. We have had an experience of some fifteen years growing peaches both on sandy loam and on clay loam, and we used to grow quite a quantity of peaches, and when I got an order from a customer about this time of the year invariably they always told me to be sure and bring us peaches that have been grown on the clay land, and

from what I found the peaches off clay land were far better than those grown on sandy loam.

MR. PATERSON: Up in Northumberland county there are some very good orchards, and among them some Spies that are growing on sandy loam. If you take care to feed that orchard and to plow in a few cover crops you can grow, I believe with less expense, apples that will sell well.

MR. KYDD: What did I say in regard to that?

MR. PATERSON: I understood you to say that the soil was almost too light to grow good fruit.

MR. KYDD: I said in regard to the light land that it would not be suitable to put into sod. I do not want any one to think that I would start this sod to alleviate those orchards that have been in bad shape for years and require a good deal to get them into shape.

A MEMBER: You say the locality makes a difference in the color?

MR. KYDD: Yes. For instance, if you go away up on the Georgian Bay they have excellent color in their apples up there. I think you will get better colour in your apples from the method of keeping it in sod than you will by cultivation; that is all I am trying to get you men who are fruit growers interested in, and if you are making good money in your orchards as at present, stick right to present methods.

CO-OPERATIVE MARKETING OF APPLES IN NOVA SCOTIA.

S. C. PARKER, BERWICK, N.S.

I assure you it is with much pleasure that I appear before this Convention to address you for a few moments on a question that is exciting much attention in my own Province and in the other fruit growing sections of Canada.

This question of co-operating to market our fruit crop to the best advantage has long been a subject of discussion in our fruit meetings in Nova Scotia. A few years ago our Association invited your Robert Thompson, whom I am glad to see and hear to-day on his own stamping ground, to come down to Nova Scotia and tell us how you were doing things in Ontario. Mr. Thompson came and addressed our Association and gave us many valuable ideas on methods of organization. So, when I received the invitation to visit you. I was impelled to show at least an honest endeavour to return some ideas for those received from you. We have reciprocity with Ontario in ideas and interests, and I feel quite at home here in listening to your discussions for the past two days. I find our problems are the same and our interests pratically identical. The Nova Scotia fruit growers have had reciprocal relations with some other Ontario gentlemen. Apple buyers have visited us from time to time. One of the first of these bought some 10,000 barrels of apples from our growers, got them safely warehoused in another person's warehouse, then folded his tent and stole silently away, leaving many to mourn his departure to this day. The next buyer was not in the same class. I am not afraid to name him, M. C. Smith of Burlington, whom I also am glad to meet here to-day. Mr. Smith bought some apples off us and made some money. I am glad he did, for we got ideas in packing and marketing from observing his methods that were worth more to the Annapolis Valley than all the money he got from us. Another buyer came, also a fair trader. He bought a lot of our apples and paid for them,

but it is currently reported that he brought $20,000 more of good Ontario money than he took away. Nova Scotia fruit growers learn quickly and do not care to enter into reciprocal relations, even with Ontario, unless they get at least a fair trade. I may as well tell you just now, you must send your brightest men or, as the last speaker remarked, "We will trim them to a finish."

Our fruit growers have had other reciprocal dealings with Ontario. We have been buying 50,000 apple trees each year to increase our orchards. Two years ago you did not play fair. You sent us down a good dose of San José scale on those trees. A deputation of nurserymen who came down to explain how it happened, told us it was a good thing for us—a blessing in disguise. That may be so, but we are not looking for that kind of blessing. The Provincial Department of Agriculture got busy, and are trying to chase down every Ontario scale that has landed in our Province. In the meantime drastic regulations have been enacted that prevent the importation of your trees until you can certify them free from scale. Meanwhile, we are doing a little nursery business on our own account, and possibly by the time you get your nurseries cleaned of scale we may be able to reciprocate in trees as well as in apples.

The apple growing area of Nova Scotia is limited and always will be. For practical, commercial purposes the Annapolis Valley is the orchard area of Nova Scotia. This Valley is about one hundred miles long and from two to ten in width, protected on the north and south by ranges of hills, called by courtesy mountains. This is where we grew two million barrels in 1911 and expect to grow five million barrels before 1920.

The beginning of apple growing in Nova Scotia was many years ago. The early French Acadians had their apple trees and small orchards were planted up and down the Valley from Annapolis to Windsor. There are trees now bearing apples that are known to be more than two hundred years old. Producing apples on a commercial basis, however, is of much more recent origin. About thirty years ago the increase was such that the growers began to look for markets away from home. The English market seemed the best opening, and shipments were made from time to time to those markets. There were few local buyers, the business was too small to draw in outside capital, and those early shipments were usually consigned. The farmer was not only grower but packer and consigner. Out of this method grew a system of co-operation. A number of growers would often be represented in the same carload and hundreds in the same cargo. In the meantime, the English commission houses were catering to the growing trade and placing representatives in the orchard sections to solicit consignments. More than a score of English houses had their representatives in the Annapolis Valley. These had their agents and sub-agents at every station in the fruit district, and these subs had subs. Indeed, it recalled the old story of the parasites:

> "The greater fleas had lesser fleas
> Upon their backs to bite 'em;
> The lesser fleas had smaller fleas,
> And so, *ad infinitum*."

Thus there was an army of middlemen preying on the producer. These people would take charge of consignments, no matter how small, combine them in carload lots, forwarding to the English houses. The return commission, rebates and steals often gave them fifty cents per barrel on the farmer's crop; and when this crop ran into the hundreds of thousands of barrels it was a good business. This was a

species of co-operation, but under this system the middleman was getting rich and the producer often growing poorer.

The question of co-operation has been talked many times. Several attempts were made and failed, possibly because the proposed scheme was too ambitious. About seven years ago the first successful scheme was launched on a very modest scale. The Berwick Fruit Company, Limited, was organized, made up of six members with a nominal capital of $10,000. In the first year this company handled about 7,000 barrels. It was a success from its inception. The second year the membership increased and 18,000 barrels were handled. The third year, although the capital was increased, the stock was quickly taken up, and it was necessary to refuse any more members admission. That year the company packed and shipped 30,000 barrels. At the end of seven years they have a packing house, 175 x 60 ft., an evaporator and all facilities for handling 75,000 barrels annually. Encouraged by the signal success of the Berwick Company new organizations sprang up like mushrooms. Three others were organized at Berwick and some thirty-five or forty operated in the Valley this season.

The organization is extremely simple. A general Act was passed by the Provincial Legislature entitled: "An Act to Encourage the Organization of Co-operative Fruit Packing and Shipping Companies." This Act provides that any three persons may organize for the purpose of packing, shipping, marketing, warehousing fruit or farm produce, buying and selling flour, feed, fertilizers, farming tools, making barrels, or practically anything used on the farm.

MR. BUNTING: Do you find any difficulty in getting barrels?

MR. PARKER: No, the barrels used are often made by the farmer, usually, in cooper shops near the farm. Every village has its cooper shop. I see Mr. Bunting smiling; he has seen our barrels.

MR. BUNTING: Anybody could make those barrels.

MR. PARKER: That is right, Mr. Bunting. Nova Scotians can make anything. We have made two Premiers of Canada, already. The Nova Scotia barrel is crude in appearance, but it is cheap and strong. I do not think we would consent to change it; it serves as a trade mark in markets where best known.

In the co-operatives there is no individual packing. The farmer picks his apples and delivers them in barrels to the packing house. There they lose their identity and become part of the Company output. Each variety is averaged, and the farmer is paid the price of his apples, less the packing charges.

After a few years' experience of the local companies, it was felt that the time was ripe for the next step in co-operation. There were some twenty local companies at work, each independent of the other, and competing with the same goods in the same markets. After a year of experimenting, the locals got together and organized a Central Company—The United Fruit Companies of Nova Scotia. In this Central organization the local company is the unit; taking the same place in the larger organization that the individual does in the smaller. Each local unit must subscribe twenty per cent of its capital stock to make up the capital of the Central; and each local appoints a representative, usually the manager, on the Board of Directors of the Central Company. All the apples packed by the local companies are marketed by the United Fruit Companies, and in this organization the fruit is also pooled, the local being paid the average price for the season—on the output.

The most sanguine of the builders of this organization did not realize what a tremendous scheme they were floating. Neither did they expect the great machine

would run without friction as it has done, and become in one year a power in the fruit market of the world. In 1912 and 1913, the first year of its operation, the United Fruit Companies handled 367,000 barrels of apples, nearly one-half the output of Nova Scotia. The price returned was very satisfactory. For instance:

Gravensteins netted; No. 1, $2.07; No. 2, $1.77.
Duchess netted; No. 1, $2.09; No. 2, $1.99.
Kings netted; No. 1, $2.35; No. 2, $2.00.
Golden Russets netted; No. 1, $3.05; No. 2, $2.32.

The central Office bought and distributed among the subsidiary companies: 300,000 pulpheads, 500 kegs nails, 71,000 lbs. grass seed, 1,400 bls. flour, 54,000 lbs. vetches, 18,000 bags of feed, 5,800 tons of fertilizer, 56,000 lbs. arsenate of lead, 835 bbls. lime sulphur, paying for the above, spot cash, $135,000.00. It is estimated that on fertilizers alone we saved $18,000 to the farmers in the companies, while those outside reaped a corresponding benefit, prices falling generally $3 per ton.

The United Companies have in addition to their office at Berwick, offices in Halifax and London. They employed a traveller during the fruit season, and an organizer and instructor during the entire year.

Now, just a word in regard to the cost of this efficient organization. The total cost of the Central Association amounted to $14,660. Thus the entire running expenses of the United Fruit Companies, including salaries, travel, cable, telephone and telegraph, upkeep of offices in Berwick, Halifax and London, have been paid out of direct earnings and savings, all effected, and could only have been effected, by centralization. In addition, $5,000 was placed in reserve on capital account, and more than $5,000 rebated to the subsidary companies. Just one concrete instance of how savings are effected by organization: The Carters' Union in London have from time immemorial charged four pence per barrel, cartage. Our representative the last year found people who would do the same work for three pence, This one item saved the companies $8,000, enough to pay the expenses of the London office for several years.

In conclusion, I may say that the few years' experience in co-operation has practically revolutionized the fruit business in Nova Scotia. Some thirty-five local companies are working this season, most of them in co-operation with the Central. The people, generally, are watching progress carefully. The machine seems to be working perfectly, and if no serious errors are made a very few years will see the enormous apple business of the Annapolis Valley controlled by one organization—the United Fruit Companies of Nova Scotia.

I am very glad to see the Minister of Agriculture and Mr. Ruddick of the Dominion Department here to-day. The officers of the Department are greatly interested in this co-operative organization, and express great pleasure in learning of its success.

RESOLUTIONS.

The following resolutions were submitted, discussed and carried:

"That this Association approve of the suggestions made in regard to the improvement of transportation of fruit and urge upon the Dominion Government to bring in legislation to put these improvements into effect, and suggest that a copy of this resolution be sent to Mr. J. E. Armstrong, M.P., who has promised to forward such legislation, and secondly;

"That this resolution be printed in pamphlet form together with the excellent report on transportation read by Mr. G. E. McIntosh."

Resolution in regard to the reduction of postal rates on horticultural and agricultural journals by Mr. Cowan, instead of the increased rates as rumored the Dominion Government is about to enact; a copy of the resolution to be forwarded to the Government.

ANNUAL REPORT

OF THE

Bureau of Industries

FOR THE

PROVINCE OF ONTARIO

1913

PART I.—AGRICULTURAL STATISTICS
PART II.—CHATTEL MORTGAGES

(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE, TORONTO)

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO

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1914

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TORONTO

To His Honour COL. SIR JOHN MORISON GIBSON, Knight Commander of the Most Distinguished Order of St. Michael and St. George, a Colonel in the Militia of Canada, etc., etc., etc.

Lieutenant-Governor of the Province of Ontario.

MAY IT PLEASE YOUR HONOUR:

The undersigned begs to present herewith for the consideration of Your Honour the Report of the Ontario Bureau of Industries for 1913.

Respectfully submitted,

JAMES S. DUFF,
Minister of Agriculture.

TORONTO, 1914.

Ontario Bureau of Industries

PART I.—AGRICULTURAL STATISTICS.

THE WEATHER.

Under their respective headings, summary tables of temperature, precipitation, and sunshine are herewith presented.

TEMPERATURE. The following table gives the temperature of the Province of each month during the last five years, together with the mean annual temperature, also the mean temperature for the six months April-September—practically the growing season—together with the average for the five years 1909-13, and the thirty-two years, 1882-1913:

Month.	1913	1912	1911	1910	1909	1909-1913	1882-1913
	°	°	°	°	°	°	°
January	26.1	7.7	20.8	21.6	21.6	19.6	17.9
February	15.4	13.6	21.1	16.8	22.1	17.8	17.2
March	29.0	21.1	26.2	35.2	26.9	27.7	26.3
April	44.3	39.5	40.6	46.6	38.6	41.9	41.6
May	52.4	54.9	59.9	51.2	52.0	54.1	53.8
June	63.2	60.0	64.1	62.4	64.2	62.8	63.8
July	68.1	67.8	70.1	68.3	66.6	68.2	68.1
August	66.4	62.2	67.7	65.6	67.0	65.8	64.5
September	57.8	60.7	58.2	57.0	57.9	58.3	59.6
October	49.4	49.3	46.9	49.0	44.8	47.9	47.2
November	40.3	37.1	32.7	33.4	39.0	36.5	35.2
December	29.3	28.0	30.0	17.7	22.9	25.6	23.8
Annual mean	45.1	41.8	44.8	43.7	43.6	43.8	43.2
Mean for 6 months, April to September	58.7	57.5	60.1	58.5	57.7	58.5	58.6

The mean temperature for the year 1913 was 45.1 degrees, 3.3 degrees higher than that of the preceding year, and 1.9 degrees higher than the normal for the thirty-two years 1882-1913.

The mean temperature for the six months, April-September, was 1.2 degrees warmer than the corresponding period of the previous year, and 0.1 degree higher than the thirty-two year normal. January was the warmest month relatively, being 8.2 degrees above normal; February and September were the coldest months relatively, both being 1.8 degrees below their respective averages.

SUNSHINE. In the following table the averages of sunshine are, as usual, derived from the records of the weather stations at Woodstock, Toronto, Lindsay, Kingston, and Ottawa:—

Month.	Sun above horizon.	1913	1912	1911	1910	1909	1909-1913	1882-1913
	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.
January	285.7	61.3	98.7	79.2	53.0	67.1	71.9	75.4
February	291.4	111.8	109.7	89.9	107.6	76.6	99.1	103.4
March	369.9	106.7	181.2	159.4	173.7	141.7	152.5	143.3
April	406.4	207.5	177.3	192.3	152.6	156.7	177.3	185.5
May	461.1	241.4	188.9	272.2	176.1	191.5	214.0	213.2
June	465.7	315.5	281.6	215.3	242.6	264.3	263.9	247.3
July	470.9	297.5	264.2	303.1	268.9	266.0	279.9	267.7
August	434.5	257.6	153.8	247.1	204.8	273.4	227.3	241.1
September	376.3	213.4	114.0	190.7	179.3	182.4	176.0	185.5
October	340.2	121.4	147.3	150.9	142.8	128.1	138.1	140.2
November	286.9	95.1	82.9	75.0	43.2	95.5	78.3	78.2
December	274.3	78.6	52.4	65.3	74.5	55.9	65.3	60.5
Total for the year..	4463.3	2107.8	1852.0	2040.4	1819.1	1899.2	1943.7	1941.3
Total for six months, April to September.	2614.9	1532.9	1179.8	1420.7	1224.3	1334.3	1338.4	1340.3

The year 1913 had 2,107.8 hours of sunshine, or 166.5 hours more than the average for the last thirty-two years. The six growing months, April-September, had 1,532.9 hours of sunshine, or 192.6 hours more than the average for the period 1882-1913. January, March and October were the only months that did not exceed their averages, March having experienced 36.6 hours less than its usual sunshine; all the others were above, June being the highest with an excess of 68.2 hours.

Precipitation. The fall of both rain and snow for the five winter months, including November, 1912, and March, 1913, is given in the following table for five years, together with the average for the thirty-two years, 1882-1913. An inch of water is equivalent to ten inches of snow:—

Months.	1913	1912	1911	1910	1909	1909-1913	1882-1913
November:	in.	in.	in.	in.	in.	in.	in.
Rain	2.66	2.52	1.35	3.03	1.25	2.16	2.02
Snow	7.4	13.4	12.8	4.9	6.3	9.0	7.7
December:							
Rain	1.18	1.44	0.09	0.93	0.48	0.82	1.22
Snow	11.2	9.1	22.9	9.0	19.6	14.4	15.2
January:							
Rain	2.45	0.44	0.76	1.09	1.29	1.21	1.00
Snow	13.6	25.4	9.9	19.6	11.5	16.0	19.3
February:							
Rain	0.31	0.08	0.40	0.71	1.52	0.60	0.79
Snow	13.2	16.8	15.6	19.7	16.2	16.3	16.3
March:							
Rain	2.82	0.20	0.96	0.65	1.06	1.14	1.22
Snow	13.8	14.1	13.3	3.1	16.8	12.2	10.6
Five months:							
Rain	9.42	4.68	3.56	6.41	5.60	5.93	6.25
Snow	59.2	78.8	74.5	56.3	70.4	67.9	69.1

The total amount of rainfall for five months, November-March, was 9.42 inches, or 3.17 inches above the average for the thirty-two years, 1882-1913.

The total amount of snowfall was 59.2 inches, or 9.9 inches below average. March was the only month having an excess, being 3.2 inches above, while the others ranged from 0.3 inches to 5.7 inches below.

The six months, April to September, however, comprise what is regarded as the growing season for most crops, and the following table gives the rainfall of these months for the last five years, 1909-1913, and for the thirty-two years, 1882-1913:—

Months.	1913	1912	1911	1910	1909	1909-1913	1882-1913
	in.	in.	in.	in.	in.	in.	in.
April	2.77	2.24	1.58	3.15	3.48	2.64	1.77
May	1.93	5.08	2.08	2.84	3.44	3.07	2.86
June	1.77	1.56	2.30	1.49	1.36	1.70	2.71
July	2.46	2.61	2.30	3.12	4.02	2.90	2.83
August	3.43	4.33	2.29	3.18	2.18	3.08	2.57
September	1.64	3.98	2.77	2.45	1.91	2.55	2.60
Total for six months	14.00	19.80	13.32	16.23	16.39	15.94	15.34

The rainfall for the six months, April-September, comprising the growing season, was 14.00 inches, 5.80 inches less than 1912, and in comparison with the normal for the thirty-two year period 1.34 inches below. April and August were both above average, while the rest were all below.

VEGETATION AND SPRING SOWING.

The bulletin issued about the middle of May thus referred to spring growth as observed up to that date: "Unusually warm weather in the latter half of April and the early part of May caused growth in the field, orchard, and forest to go ahead with a rush, and vegetation was estimated to be from a week to two weeks ahead of the normal. Cool weather with night frosts coming in about the 7th of May, however, gave an almost complete check to growth from that date to time of reporting; and while orchards seem to be more forward than usual, pastures are now only about ordinary. In most cases, cattle are on the grass and are getting a good bite. Very timely rains were also falling as our later correspondent wrote."

Spring Sowing. This work was well advanced when correspondents reported, on or about the 15th of May, and in many quarters all spring grains had been got in. While there were some complaints of some of the stiffer clay soils being hard to work, and remaining somewhat lumpy, most of the reports spoke of the condition of the seed bed as being from fair to excellent. All the spring grains made a good catch as a rule; but several correspondents stated that more rain was necessary in order to ensure the best results.

STATISTICS OF FIELD CROPS.

The following table gives the acreage, production and market value of the field crops of Ontario for the year 1913. Detailed tables showing the statistics by counties will be found elsewhere in this report.

Crops.	Acres.	Bushels.	Bushels per acre.	Market Value	
				Total.	Per acre.
				$	$ c.
Fall Wheat	646,533	15,945,717	24.7	13,550,459	20 96
Spring Wheat	116,581	2,068,951	17.7	1,818,652	15 60
Barley	623,658	18,255,958	29.3	10,136,759	16 25
Oats	2,699,459	98,426,902	36.5	36,342,489	13 46
Peas	177,303	3,108,263	17.5	3,127,551	17 64
Beans	66,639	1,021,243	15.3	1,738,900	26 09
Rye	118,429	1,979,775	16.7	1,310,306	11 06
Buckwheat	228,279	4,012,418	17.6	2,549,398	11 17
Corn (for husking)	299,871	22,214,014	74.1	9,545,538	31 83
Potatoes	159,661	19,024,115	119.	12,114,656	75 88
Carrots	2,400	592,016	247.	74,002	30 83
Mangel-wurzels	54,568	21,935,847	402.	1,754,868	32 16
Turnips	97,572	41,889,894	429.	4,188,989	42 93
Sugar Beets	19,083	6,389,177	335.	798,647	41 85
Mixed grains	414,517	15,113,480	36.5	7,953,111	19 19
		tons.	tons.		
Corn (for Silo)	388,138	4,059,345	10.46	10,148,363	26.15
*Hay and Clover	3,428,846	3,924,563	1.14	51,302,565	14.96
Totals:					
1913	9,541,537			168,455,253	17 65
1912	9,574,474			185,790,341	19 40
1911	9,718,741			179,974,358	18 52
1910	9,725,684			175,115,742	18 01
1909	9,578,323			167,966,577	17 54

* Including alfalfa.

There were decreases in the market values of all crops excepting rye and corn, the decrease in hay and clover alone being upwards of ten million dollars from 1912.

The acreages devoted to other crops in 1913 were as follows: orchards, 306,764; small fruits, 24,360; vineyards, 11,136; gardens, 55,029; rape, 41,063; flax, 7,431; hops, 890; tobacco, 12,137, (Essex, 6,490; Kent, 4,573); summer fallow, 268,487; pasture (cleared), 3,120,146.

THE GRAIN CROPS.

Fall Wheat. The condition of the fall wheat sown for cutting in 1913 was described as follows in the 1912 November bulletin: "A smaller area of wheat has been sown this fall, owing largely to the lateness of the harvest and the difficulty of getting on low land, owing to the frequent rains. The Georgian Bay district is the only fall wheat section closely approaching its own normal acreage. Correspondents report a favorable seed bed, and most of the fields of new wheat look fairly promising, although there is a rather small top, owing to late seeding and the comparatively cool fall weather. Sowing ranged from the last week of August until the first week of October, most of the crop having been put in between the 9th and the 15th of September. Only scattering mention was made of the Hessian Fly, in the counties Elgin, Norfolk, and Grey."

In the April bulletin, the condition of the young wheat after the winter's experience was thus referred to: "Much of the new wheat entered the winter of 1912 rather below the usual height, owing to late planting as a result of the delayed harvesting and the general wet weather prevailing during the season. There was a light covering of snow during the winter, especially in January and a part of February, when in certain sections of the Province fields were practically bare for several weeks together. Notwithstanding these drawbacks the comparatively mild temperature during the winter kept the crops from serious injury, more damage being done by floods on low fields than from any other cause. The present outlook for fall wheat is on the whole favourable, although it is rather too early to speak with assurance, as several correspondents point out that April is a most critical period in the history of the crop, owing to the possibility of cold winds and alternate freezing and thawing, which prove very trying to the young plants."

The following gives the prospects of the crop about the middle of May: "Fall wheat wintered well, notwithstanding the light protection of snow, and the early spring weather was also favourable, there being comparatively little heaving or other injury from frost. There was an unusually rapid growth in the latter part of April and the first few days of May, which gave a good head to the plant, but subsequent cold weather has acted as a check. Taken altogether, however, the present outlook for the crop is most promising, except on late sown fields or on low or poorly drained land. Only a comparatively small acreage has been plowed up or resown with barley or other spring grain. Much less injury than usual from insects is reported."

"The promising outlook for fall wheat described in the May returns has been realized," ran the August bulletin. "The average yield per acre is large—although there is considerable range in individual returns even in the same counties—while the grain is generally classed as a good sample. The straw is rather short, but clean, and of good quality generally. Odd mention only was made of rust and smut, and injury from the Hessian fly and other pests was comparatively small. Cutting ranged from the 10th to the end of July."

November reports were to the effect that fall wheat had been a most satisfactory crop, both as to yield and quality, the sample as a rule being fully up to weight. While the straw was rather short, it was clean and bright. The weather at harvesting was most favorable."

The New Fall Wheat. The newly-sown fall wheat was thus alluded to in the November bulletin: "Reports indicate an enlarged acreage, every fall wheat district promising to share in the increase. Notwithstanding the rather dry conditions at the time of sowing, the soil as a rule proved to be in good tilth for a seed bed, and the young fields at present are described as looking strong and promising. Only a few complaints have been made of injury from Hessian fly or other insects. Feeding ranged from the last week of August into the third week of September, the bulk of the crop being got in during the first twelve days of the latter month. Dawson's Golden Chaff is still the favorite variety."

Spring Wheat. This crop is now mainly confined to the eastern half of the Province and the newer districts of the north, and is not increasing in general favor. The August bulletin said of this crop: "The average yield is a good one, the sample is well spoken of, and the straw is somewhat short, but bright and clean. Harvesting was proceeding favorably as correspondents reported."

November returns stated that where grown spring wheat proved to be a good average crop, both as to yield and quality.

Barley. Like the other spring grains, barley did not get a good start, owing to the comparatively cold weather prevailing in the early part of the season, yet the crop turned out to be a most satisfactory one. The August bulletin described the grain as being plump and of excellent colour, and while the straw lacked in length, owing to the drouth, it was remarkably clean. The crop was harvested during the last two weeks of July and the first week of August.

An average yield of plump, well colored grain, on short, clean straw, harvested under most favorable conditions, described the barley crop, taking the Province as a whole, according to the November bulletin.

Oats. "Most of this crop had been cut when correspondents reported," remarked the August bulletin. "The straw as a rule is short; but, as in the case of the other cereals, it is usually clean and bright, and it is of good feeding value. The grain is said to be well up to weight, and there will be a good average yield per acre. There have been a few complaints of smut, but the crop generally may be described as an excellent one, and it is being well harvested."

The November bulletin contained the following: "Oats are well up to weight and general quality of grain—the best in this regard for years—and are about an average in yield per acre; but owing to the drouth the straw is short, though clean, and first-class for fodder. While some of the cut was caught by grain, the bulk of the crop was harvested satisfactorily."

Winter Rye. This crop is not now a general one. Unlike other grains, rye did better in the straw than in the head this season. Both the August and November returns referred to rye as doing fairly well.

Peas. August returns regarding this crop were thus summarized: "Except where grown for the canners, peas appear to be decreasing in favor as a field crop. The reports received concerning the general conditions of the crop, however, are more favorable than those of more recent years. Practically no mention is made of the weevil, and while the straw is described as being short, it has been well podded, and the average yield is likely to be a good one. The pea crop appears to flourish best in the newer districts of Northern Ontario. Pulling was about half completed when correspondents reported."

The November bulletin stated: "Although not so much grown as formerly (owing to the ravages of the weevil), peas have done well this year, especially where raised for the canning factories. As but little mention has been made of the presence of the weevil this season, the absence of the pest in so many localities may induce farmers to give a larger acreage to this once popular field crop."

Buckwheat. Buckwheat suffered from frost to a greater degree than any other field crop, and the drouth of summer also told against it. On the whole it was not up to the average of recent years in either yield or quality, although some excellent fields were reported.

Mixed Grains. The growing of mixed grains does not appear to be increasing in popularity. Barley and early oats are most commonly used together, although some suggest the addition of wheat or peas to the mixture. Oats and wheat, and peas, oats and wheat also have a few advocates, while there are scattering preferences for other combinations.

Beans. The August bulletin said: "This is one of the few crops reported to have suffered from too much rain, especially on clay soils. Some of the returns, however, refer to the crop as promising well. As correspondents wrote, some of the fields were well podded, while others were only just in bloom."

According to the November returns beans were slightly caught by frost in some localities, but taken altogether the crop was well harvested, and turned out to be fair both as to yield and sample. Some low-lying fields suffered from rain in August.

Corn. This crop got off to a poor start, the nights being cold and the season generally backward. Drouth followed, and the outlook became most unpromising. The August bulletin, however, was able to say: "During the last few weeks more favorable corn weather has arrived, and as correspondents wrote the crop had picked up wonderfully, and is now giving good promise, more especially where grown for the silo."

Speaking of corn, the November bulletin said: "This crop was checked in growth early in the season by cold weather, followed by drouth, but later on it picked up wonderfully and gave promise of a fair yield, although somewhat shorter in stand than usual. Some of the corn fields got touched by frost about the middle of September, and as a consequence there will be a little soft grain; but the bulk of the crop will be of first-class quality, both for husking and the silo, being well matured, and all of it will make good feed for live stock."

Hay and Clover. The bulletin describing agricultural conditions existing about the beginning of April, said of clover: "This crop made a good catch, and entered the winter in a more forward condition than fall wheat. Some heaving has been reported, but as a rule opinions regarding the present condition of the fields are more or less favorable notwithstanding the light protection of snow, especially during midwinter. Like fall wheat, clover has yet to pass through the trying time of April."

May returns were most definite regarding the condition of clover. The May bulletin reported: "In the western half of the Province, in the Northern Districts, and in most of the Lake Ontario counties, clover has done well, especially in the case of the younger fields. In the more eastern part of the Province, however, much of the crop has been more or less killed out during the winter and spring, although even there some good fields are also reported. Several correspondents point out that late pasturing was responsible for some of the poor fields of both clover and alfalfa."

The August bulletin had the following regarding hay and clover: "The average yield of hay for the Province is low, being only 1.09* tons per acre, compared with an average of 1.46 tons for the last thirty-one years. In that period of time the hay crop fell below this season's average yield in four years only, viz., .93 ton in 1896, .73 ton in 1895, .94 ton in 1891, and .88 ton in 1888. The south-western part of the Province did better this season than the more eastern and northern counties. The cut everywhere was well cured, and is reported to be of excellent quality. The chief drawbacks to the crop were the late spring frosts and the dry weather of May, which continued throughout June. A good promise of clover seed is reported. Cutting was general from the last week of June until the third week of July—in a few instances even later."

Clover Seed. The second growth of clover did better relatively for hay than for seed, for although the heads at one time gave much promise, the late summer drouth seemed to prevent satisfactory filling, and there was consequently a light yield of seed. The drouth had also compelled many farmers to pasture some of the clover fields. Hardly any injury from midge is reported. Alsike and alfalfa did better than clover for seed.

Alfalfa. Reports regarding alfalfa are not quite so enthusiastic as usual,

*Exclusive of alfalfa, which average 2.27 tons per acre.

as both winter and spring conditions were trying to this crop, and many of the fields are somewhat patchy. As in the case of fall wheat and clover, alfalfa has done best on well-drained land.

FIELD ROOTS.

Potatoes. The August bulletin contained the following: "Reports regarding the probable yield of potatoes vary all the way from poor to good, the majority of the opinions favoring a fair return should timely rains occur during the remainder of the growing season. The drouth of midsummer is given as the main drawback to the crop. The size of the tubers is, so far, inclined to be small, owing to the drouth, but otherwise their quality is good. A number of the returns refer to the fact that there are fewer Colorado beetles than usual this season. This is attributed by some to the presence of an insect described by one correspondent as 'a small, flattish bug,' evidently *Perillus bioculatus,* var. *claudus,* which in its adult and nymph stages feeds upon the Colorado beetle, attacking both the adult beetles and the larvæ, according to observations made during the past two years by Mr. L. Caesar, of the Ontario Agricultural College staff."

The November returns regarding potatoes were thus summarized: "Potatoes are somewhat smaller in size and yield than usual, owing to the dry season, but as a rule the quality is excellent, and so far there is said to be an almost complete absence of rot. All were under cover when correspondents wrote."

Turnips. These roots suffered from drouth up to August, but showers in that month revived the prospects, and it was then thought that a fair return might yet be given.

The November bulletin had the following to say of the crop: "Returns concerning turnips vary, some very poor and some very good fields being reported; but as a whole the crop is a disappointing one. In a number of counties the plants were severely attacked by lice, and the drouth also told on the crop, and as a result many of the turnips will be undersized. A portion of the crop remained to be pulled on the 1st of November."

Mangels. Mangels with the other root crops suffered from drouth in the early part of the season, but later picked up considerably, and the latest report on the crop, given in the November bulletin, was as follows: "Like turnips, mangels are reported to be rather light in yield, and smaller in size than usual, but as a rule they are said to be of good quality. The crop was practically all housed when correspondents reported."

Carrots. Very few carrots are now raised in Ontario as a field crop; this season they are reported to be from poor to good as to yield.

Sugar Beets. These roots suffered from drouth up to August, but recovered later. They are reported to be rather light in yield, but of good quality.

MISCELLANEOUS.

Tobacco. The August bulletin said: "Tobacco was usually described as being backward and uneven, owing chiefly to frost in May and June, although a few fine fields were reported."

November reports regarding tobacco were to the following effect: "Cold

weather and drouth just after planting were very trying to this crop, but later the weather was more favorable, and the fall proved to be ideal for harvesting the leaf. Most of the crop escaped frost, and it is said to be of good quality on the whole, although only moderate in yield."

Threshing and Marketing. The November bulletin under date of the 1st, said: "Threshing is completed in most localities, owing to the use of modern machinery. The fall was most favorable to the work, and the straw has been housed in excellent condition. Some wheat and other grains have been marketed, and more will be disposed of when sleighing comes. At present prices, however, most of the grain will be ground or chopped and fed to live stock on the farm, for, as a Leeds county correspondent tersely puts it: 'It now goes to market as milk, butter, cheese, or meat.'"

Fall Plowing. The November bulletin also said: "While some farmers have completed their fall plowing, others are only beginning. The dry weather up to the middle of October made plowing almost impossible on clay soils, but later rains put the land in good shape. Should open weather continue, more land than ever will be turned under, especially in eastern Ontario."

Farm Improvements. An increasing interest is being manifested in underdraining, and considerable tiling was done during the season, especially in the western half of the Province. More would have been done but for the scarcity of labor. Several correspondents spoke favorably of the local use of the traction ditcher. The great wind storm of Good Friday unroofed many barns in western Ontario, necessitating much repairing, and in some cases metal has replaced the wooden shingles. Many new dwellings have also been erected or remodelled, and a large number of barns have had new basements put under them for stabling, with cement flooring. A considerable amount of woven fencing has also been put up this season.

FRUIT AND FRUIT TREES.

The April bulletin said: "The heavy wind storm of March 21st (Good Friday) did much injury to orchards in many counties of the Province, some trees being uprooted, and a severe sleet about a week later also broke many limbs off fruit trees. Otherwise the unusually open and mild winter has been favorable to orchard conditions."

The following account of early conditions in orchards appeared in the bulletin published about the middle of May: "In the first week of May orchards gave promise of an immense yield. The trees were covered with fruit buds—many in full bloom—and small fruits were also blossoming profusely. Between the 7th and 11th of May, however, a series of severe night frosts occurred, the effects of which are variously described by correspondents. A careful sifting of the reports shows that early strawberries were badly nipped, but that the later varieties happily escaped. Some bush fruits, such as currants, were also caught in a few of the more advanced sections. In the fruit lands along the lake shores—more especially in the Niagara district—fruit trees sustained comparatively little harm from the frosts, but some of the orchards farther inland were injured to some extent. Of the orchard trees, apples have suffered the least and plums and cherries the most, but in no case as seriously as was at first expected. To sum up, the injury from the severe frosts of May has turned out to be much less

general than was feared at the time of the attacks, and a good yield of all classes of fruit may still be had should favorable conditions prevail. The presence of the tent caterpillar in unusually large numbers is complained of by many correspondents in the eastern half of the Province."

Midsummer reports concerning fruit were summarized as follows in the August bulletin: "The effects of the frosts which occurred early in May during the period of fruit bloom is discernible in the reports of correspondents just to hand. Apples appear to have suffered considerably, and the subsequent dry weather has also been trying to this fruit. The general opinion is that the yield of apples for the Province will be about half the normal. Several returns speak of the insistence of the scab on the fruit in some of the sprayed orchards, while others claim that spraying has been as effective as usual. In eastern Ontario the tent caterpillar is reported in large numbers, and some orchards are said to have been greatly defoliated. Pears have done better than apples, both in yield and quality. Plums are rated as being from fair to heavy in yield and generally of good quality. Peaches will be a very good crop, having escaped the spring frosts surprisingly well. Grapes will be only medium, some vineyards having been nipped by the May frost. Strawberries promised well early in the season, but were affected by drouth while ripening. Raspberries were an improvement, although not up to promise."

November returns regarding the condition of orchards were to the following effect: "Fruit trees, vines, and bushes are likely to enter the winter with well-ripened wood. Some orchards, however, where spraying has been neglected, are suffering from the San Jose scale and other insect and fungus pests. The tent caterpillar was more prevalent than usual, more especially in the eastern half of the Province. Winter apples will not be plentiful; pears have done better relatively. Plums, cherries and peaches gave generous yields, and small fruits gave a fair yield despite the spring frosts and summer drouth, although grapes were not up to the standard in their bearing."

PASTURES, LIVE STOCK, AND THE DAIRY.

The April bulletin has the following to say regarding the condition of live stock: "The wintering of live stock has been a comparatively easy task, owing to the mildness of the weather and the abundance of fodder.

"Horses have been in good demand, and have consequently commanded high prices. No serious disease has prevailed, although some of the usual lighter forms of distemper have been reported. Several correspondents state that too much straw was fed, and as some of the straw and oats were musty owing to the dampness of the season indigestion was often the result.

"Both beef and dairy cattle have been well cared for, and are generally in good health. The chief trouble reported was the tendency of cows to abort, more especially in the dairy breeds. The big steer is a thing of the past, as one correspondent puts it, most of the beeves being finished much earlier; but while individual animals may not rank as high as the best in other years, the general form and quality of those sold to butchers, drovers, and graziers show an improvement.

"Scarce, but have done well, is a fair summary of the average return regarding sheep. Several correspondents call attention to the necessity of more dipping for the tick.

"Swine are now receiving the general care and feeding that they deserve. There is a brisk demand for pork owing to the great scarcity of animals on hand. Hogs that are being finished off for market are in excellent condition, but complaints are made that many of the litters are not coming as strong as usual."

The August bulletin said: "While a few correspondents speak of fair pasture conditions, the bulk of the reports describe the fields as being very dry, and much in need of rain, more especially in the eastern half of the Province. Dairy products were lessening, owing to the decided falling off in the milk flow. Cattle are remarkably free from disease, although some are on the lean side. Several correspondents claim that the shortage of roughage will compel farmers to dispose of some of their live stock in order to carry the remainder through the winter. The general opinion, however, is that careful feeding will meet the situation, more especially where there are silos. Much, therefore, depends upon the growing corn crop. In fact, corn is more and more regarded as the key to the Ontario fodder problem."

The following appeared in the November bulletin: "While some correspondents speak favourably of the condition of fall pastures, the bulk of the reports describe them as being scant. Farmers, however, have found so keen competition for beef between local butchers and buyers for the British and United States' markets that not only fat cattle and stockers, but even old dry cows and very young cattle have been disposed of at prices very satisfactory to the sellers. Some, indeed, fear that too many young animals have been let go, and as a consequence more calves are being kept than formerly. The demand for sheep has also been strong, and they are even scarcer than ever. Many of our best farmers now finish off sheep and other live stock on rape. Hogs have been selling steadily all the year, but they also are scarce and dear. On the other hand, horses are not so easy to sell as in more recent years, prices having dropped considerably this season. All classes of stock show a clean bill of health, though many have been a little on the lean side. Taking it all together, the live stock business in Ontario is booming."

Methods of Feeding. "In the matter of feeding live stock," said the April bulletin, "it may be said that every farmer is a law unto himself. One correspondent, however, puts the matter very pointedly and suggestively when he says that there are various ways of feeding, and all are good if there is a good man on the job.' The tendency is for less stall feeding and more finishing off on the grass, the scarcity of competent farm labor in many cases necessitating this. However, live stock of all classes are better stabled and cared for than ever before. The chopping of grain, the cutting of straw and other fodders, the pulping of roots, and the freer use of the silo are now commonly practised, although here and there complaints are yet made of farmers who make their animals depend too much upon the straw stack. Several correspondents refer to alfafa as an excellent fodder. Apart from flesh making, the aim of many farmers in feeding is well expressed by a correspondent as 'getting roughage out of the way and converting it into manure.'"

Fodder Supplies at the beginning of April. The bulletin published early in that month said: "The comparatively mild winter helped fodder supplies to go farther than usual. There has been a sufficiency of hay—in some cases it

was plentiful—and the experience of recent years of close feeding enabled stockmen to handle it to good advantage. With the exception of peas, all the grains and roots have been more than sufficient for all calls; but corn for the silo has been hardly up to the mark either in yield or quality. Straw also has been short in quantity and more or less poor in quality, having been unfavorably affected by the rainy weather during and after harvest. Several complaints were made of its scarcity for bedding. Taken all together, however, fodder supplies in general have been more than necessary to carry the average farmer through nicely and leave a fair margin for emergencies."

Fodder Supplies at the Middle of May. The May bulletin said: "Farmers are in a better situation as to fodder supplies than for many years. In most localities there is a sufficiency of hay, and in many quarters a plentiful supply. There is also a sufficiency of oats on hand in most cases, although this and other grains are now fed more freely than formerly to live stock. Wheat is somewhat scarcer, but there is enough for all requirements on the average farm. The only deficiency appears to be in the quantity of straw on hand.'

Fodder Supplies in November. The bulletin issued in that month said: "The brisk demand for cattle and other live stock at good prices this fall—more of them for export than usual—has eased the situation so far as fodder supplies are concerned. There is on the whole a sufficiency of hay, and in many cases a surplus; although here and there some farmers may have to buy. Straw is rather scarce; but, like hay, its excellent quality counts for much. Other coarse fodders are in fair supply. Several correspondents speak of rape as helping to save the dry fodders, and the silo is often referred to as one of the chief factors in the winter feeding problem. Bran, shorts, oil-cake, etc., have been purchased by some live stock men, but their high cost keeps many from using these concentrated feeds. To sum up: Despite the rather poor fall pastures, there will be a sufficiency of fodder in most localities should careful feeding be practised and a not too severe winter occur; and in the meantime all farm products, especially live stock and their products, are commanding encouraging prices."

Dairying. Dealing more particularly with dairying, the November bulletin said: "The yield of milk fell off in August owing to the drouth, but picked up later with favorable rains, although in many cases the pastures had to be supplemented by concentrated feeds. Butter is crowding cheese in some localities long dominated by the latter industry, while both are somewhat limited by the growing demand of the cities and towns for milk and cream. In some of the Lake Erie and West Midland counties a considerable quantity of milk is also being diverted to factories, which are putting it out in condensed form, either fluid or powder. The breeds of cows most in favor at present for milking are Holstein, Shorthorns and their grades, Ayrshires and Jerseys."

Poultry. Reports received indicate that more attention than ever is being given to the housing, feeding and general care of poultry. Farmers are quickly learning that the industry is a paying one where intelligently conducted. Several correspondents, however, maintain that, as ordinarily handled on the farm, there is no profit in fowl, but rather a loss; while others claim a gain on each hen kept of from $1 to $2. Eggs were never in greater demand, and the nests are more carefully looked after than ever before. The "egg circle" idea is extending, and none too soon. As one correspondent puts it: "We don't get more for good eggs than we do if they are half bad." The rearing of turkeys appears to be more difficult than in the case of other fowl, as many young turkeys died during the last two seasons.

STATISTICS. The following table gives the total numbers and value of the several classes of live stock and poultry on hand July 1st, 1913, together with live stock sold or slaughtered, in the year preceding that date:

Live Stock.	Live stock on hand, July 1, 1913.		Sold or slaughtered in year ending June 30, 1913.	
	No.	Value.	No.	Value.
		$		$
Horses (all ages)	751,726	113,240,047	96,841	15,507,939
Cattle:—				
Milch cows	1,032,039	52,176,881	880,303	38,751,801
Other cattle	1,596,806	43,582,141		
Sheep and lambs	996,155	6,242,672	534,311	3,163,752
Swine (all ages)	1,618,734	15,393,192	2,078,462	28,378,551
Poultry (all kinds)	13,511,383	6,956,952	6,325,007	3,848,973
Totals:				
1913	.....	237,591,885	.....	89,651,016
1912	.....	225,848,942	.....	84,982,339
1911	.....	214,720,424	.....	80,675,390
1910	.....	194,416,037	.....	71,833,731
1909	.....	184,747,900	.....	64,464,923

The values for the several classes of poultry on hand July 1st, 1913, were as follows:—turkeys, $720,916; geese, $400,619; ducks, $328,908; other fowl, $5,506,509.

VALUE PER HEAD. The following table gives the average value per head of live stock and poultry, for 1912 and 1913, and at five year intervals.

Live Stock.	Live stock on hand July 1.					Sold or slaughtered in year ending June 30.				
	1913	1912	1910	1905	1900	1913	1912	1910	1905	1900
	$	$	$	$	$	$	$	$	$	$
Horses (all ages)	151	147	128	110	76	160	155	136	119	79
Cattle:—	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Milch cows	50 56	47 82	40 76	35 06	31 01	44 02	42 71	37 44	36 23	32 12
Other cattle	27 29	25 61	22 43	21 29	17 93					
Sheep and lambs	6 27	6 05	5 75	4 68	4 29	5 92	5 74	5 36	4 28	3 64
Swine (all ages)	9 51	8 31	8 50	6 44	5 42	13 65	12 76	12 49	9 79	7 69
Poultry (all kinds)	51	47	43	34	29	61	58	51	39	37

LABOR AND WAGES.

Referring to labor conditions, the April bulletin said: "Help on the farm is reported as being scarcer than ever, with wages having a still upward tendency. Some correspondents, indeed, take a gloomy view of the situation, while others point to the improvements in farm machinery, barns, and other equipment as materially lightening manual labor. However, activities on many farms will this year be much increased on account of the unroofed barns, blown-down fences, trees, etc., the result of the severe wind storm of the 21st of March, which, while mild in its effects compared with the fearful losses in some of the prairie states during the same month, nevertheless wrought considerable injury to agricultural interests."

The August bulletin contained the following: "The majority of the returns speak of the scarcity and inferior quality of farm labor, although a few correspondents claim there was a sufficiency of help. However, the very favorable harvest weather, and the short straw of nearly all the grain crops, considerably lessened the demand for field workers during the busy season. Wide field implements and the interchange of labor between neighbors also tended to help out. Wages by the day ranged from $1.25 to $2.50, with board, usually around $2; by the month from $25 to $35 was commonly paid, although some skilled farm laborers commanded from $40 to $50 a month during harvest."

The following summing up of the labor situation appeared in the November bulletin: "Skilled farm labor is difficult to procure, and even indifferent help has been scarce in most localities. Larger field implements and more horses are now being used, and farmers exchange work with each other to help out the situation. Several of those reporting state that more married men with families should be procured from the agricultural districts of Great Britain, as the boys and girls could help out during the rush seasons. More pasturing is also urged. Correspondents state that wages are now fully as high as farmers can afford to pay. Agricultural domestics are nearly impossible to find."

TEMPERATURES OF 1913.

TABLE I.—Showing for each month the highest, lowest, mean highest, mean lowest, and mean temperature at the principal stations in Ontario for 1913; also the annual mean for each station.

Months.	Southampton.	Birnam.	London.	Woodstock.	Stoney Creek.	Toronto.	Lindsay.	Gravenhurst.	Ottawa.	Haileybury.
	°	°	°	°	°	°	°	°	°	°
January — Highest	49.9	47.1	50.0	47.8	54.0	51.6	43.5	46.0	43.0	45.2
January — Lowest	−3.5	−1.0	2.5	6.0	9.0	3.7	−11.0	−15.0	−14.0	−18.7
January — Mean highest	33.3	33.5	36.2	35.4	38.5	37.8	32.6	31.6	26.6	21.6
January — Mean lowest	20.8	22.0	21.7	21.0	25.4	24.8	16.5	12.6	13.4	16.3
January — Monthly mean	27.0	27.8	29.0	28.2	32.0	31.3	24.6	22.1	20.0	19.0
February — Highest	46.8	51.1	53.0	59.0	56.0	53.2	42.5	43.0	37.0	28.8
February — Lowest	−14.4	−1.0	−2.0	−3.8	4.0	−1.4	−16.5	−37.0	−18.0	−28.2
February — Mean highest	25.2	25.4	28.1	26.8	28.4	28.0	23.0	22.9	20.9	12.1
February — Mean lowest	8.8	14.2	11.7	10.5	14.7	12.7	5.2	−2.6	1.0	−9.3
February — Monthly mean	17.0	19.8	19.9	18.7	21.6	20.3	14.1	10.2	11.0	1.4
March — Highest	60.8	65.4	67.0	66.2	67.0	64.2	60.6	56.0	61.0	51.1
March — Lowest	−5.1	−10.4	−6.5	−5.2	−3.0	−1.0	−10.5	−23.0	−15.0	−20.6
March — Mean highest	38.7	39.9	42.4	40.7	41.9	41.9	38.1	37.5	35.2	30.1
March — Mean lowest	19.1	23.7	21.4	21.3	24.5	24.7	18.5	14.3	17.5	9.1
March — Monthly mean	28.9	31.8	31.9	31.0	33.2	33.3	28.3	25.9	26.3	19.6
April — Highest	77.5	77.8	83.0	85.5	81.0	76.7	85.4	82.0	85.0	81.0
April — Lowest	23.9	20.0	21.0	24.0	30.0	27.7	22.0	22.0	22.0	16.0
April — Mean highest	49.8	52.6	58.0	56.3	54.6	55.2	57.7	53.4	55.0	49.7
April — Mean lowest	33.8	37.0	34.7	35.5	36.8	37.3	33.3	31.2	34.6	29.5
April — Monthly mean	41.8	44.8	46.3	45.9	45.7	46.3	45.5	42.3	44.8	39.6
May — Highest	82.0	81.0	85.0	81.2	85.0	86.6	86.1	82.0	86.0	87.8
May — Lowest	25.2	23.4	27.0	27.5	30.0	30.2	25.5	26.0	30.0	23.0
May — Mean highest	58.9	63.4	66.8	64.1	64.2	64.2	64.9	61.0	63.2	60.3
May — Mean lowest	39.6	42.9	42.2	42.1	45.0	44.3	40.7	37.5	43.2	39.1
May — Monthly mean	49.3	53.1	54.5	53.1	54.6	54.3	52.8	49.3	53.2	49.7
June — Highest	90.7	90.6	93.0	90.0	92.0	94.7	91.3	93.0	90.0	98.8
June — Lowest	34.9	31.0	32.0	34.8	36.0	37.8	34.9	30.0	38.0	32.0
June — Mean highest	70.8	75.8	80.5	76.7	76.9	76.8	78.6	73.9	73.7	7.4
June — Mean lowest	49.6	52.4	50.6	51.4	52.2	52.8	49.3	46.5	51.6	49.6
June — Monthly mean	60.2	64.1	65.5	64.1	64.6	64.8	64.0	60.2	62.7	62.0
July — Highest	90.2	90.0	94.0	90.5	94.0	94.8	95.5	90.0	93.0	88.2
July — Lowest	42.1	41.5	40.0	42.5	48.0	49.8	43.3	40.0	46.0	43.0
July — Mean highest	74.8	78.6	82.4	80.1	82.7	81.5	81.6	78.6	79.5	75.8
July — Mean lowest	56.1	59.7	56.0	56.2	58.7	58.9	55.1	52.8	58.8	54.6
July — Monthly mean	65.4	69.1	69.2	68.1	70.7	70.2	68.3	65.7	69.1	65.2
August — Highest	88.9	87.5	94.0	89.0	95.0	92.0	97.5	92.0	92.0	90.5
August — Lowest	40.6	41.0	38.0	39.0	44.0	42.2	37.8	31.0	41.0	34.9
August — Mean highest	75.9	76.8	80.4	76.8	79.1	78.8	79.9	77.2	75.8	72.5
August — Mean lowest	56.4	58.0	55.5	55.3	57.9	58.5	53.3	56.8	56.0	52.5
August — Monthly mean	66.1	67.4	67.9	66.1	68.5	68.6	66.6	64.0	65.9	62.5
September — Highest	91.9	88.0	91.0	87.0	89.0	85.4	88.4	88.0	85.0	83.8
September — Lowest	36.1	35.0	33.0	30.0	34.0	35.6	28.9	21.0	33.0	29.2
September — Mean highest	69.5	68.6	72.5	69.2	68.8	69.6	70.4	68.5	65.7	64.1
September — Mean lowest	49.2	50.1	46.5	48.2	47.9	49.2	44.9	42.9	47.1	44.0
September — Monthly mean	59.3	59.3	59.5	58.7	58.3	59.4	57.7	55.7	56.4	54.1
October — Highest	80.2	77.0	83.0	78.0	78.0	81.4	81.1	78.0	76.0	77.8
October — Lowest	25.4	28.5	26.0	25.0	29.0	26.9	21.4	21.0	33.0	13.3
October — Mean highest	56.6	58.1	59.6	57.9	59.7	59.6	59.5	57.0	57.8	51.7
October — Mean lowest	42.7	44.8	39.9	39.5	43.4	43.6	39.3	38.1	42.3	37.4
October — Monthly mean	49.7	51.4	49.8	48.7	51.6	51.6	49.4	47.6	50.0	44.6
November — Highest	65.5	66.8	67.0	64.0	67.0	63.6	63.6	62.0	64.0	57.3
November — Lowest	26.1	23.0	19.0	21.5	27.0	27.0	21.1	20.0	18.0	13.1
November — Mean highest	48.5	46.5	47.4	46.5	49.4	48.8	51.2	45.8	45.0	39.7
November — Mean lowest	34.5	35.4	32.4	32.5	36.4	35.7	31.4	29.9	31.0	28.2
November — Monthly mean	41.5	41.0	39.9	39.5	42.9	42.3	41.3	37.8	38.0	38.9
December — Highest	52.8	51.0	50.0	49.0	53.0	53.7	48.0	47.0	41.0	45.7
December — Lowest	2.1	8.8	2.0	0.9	3.0	6.4	−9.6	−7.0	−4.0	−16.9
December — Mean highest	37.7	36.7	37.7	36.4	39.8	39.5	36.8	35.6	31.2	28.2
December — Mean lowest	26.7	27.2	24.8	23.2	27.8	27.4	20.6	19.9	17.6	11.7
December — Monthly mean	32.2	32.0	31.3	29.8	33.8	33.5	28.7	27.8	24.4	19.9
Annual mean	44.9	46.8	47.1	45.7	48.1	48.0	45.1	42.4	43.5	39.7

AVERAGE TEMPERATURE FOR THIRTY-TWO YEARS.

TABLE II.—Showing for each month the monthly average for the highest, lowest, mean highest, mean lowest and the mean temperature at the principal stations in Ontario, derived from the thirty-two years, 1882-1913, also the annual mean at each station for the same period.

Months.		Southampton.	Birnam.	London.	Woodstock.	Stoney Creek.	Toronto.	Lindsay.	Gravenhurst.	Ottawa.	Haileybury.
		°	°	°	°	°	°	°	°	°	°
January	Highest	44.9	46.2	46.6	46.5	50.7	45.3	41.8	41.6	40.4	38.1
	Lowest	— 6.9	— 8.9	— 9.4	—10.7	— 4.3	— 7.1	—20.1	—27.2	—20.9	—33.6
	Mean highest	28.3	27.1	28.9	28.5	32.4	29.4	24.7	24.4	20.0	18.5
	Mean lowest	13.6	15.1	13.9	11.9	18.1	14.9	7.0	3.8	2.2	— 5.4
	Monthly mean	22.0	21.1	21.4	20.2	25.3	22.2	15.8	14.1	11.1	6.6
February	Highest	44.3	46.6	46.3	45.6	48.1	44.6	41.9	42.0	40.0	41.2
	Lowest	—11.6	—11.8	—11.4	—11.4	— 6.1	— 8.1	—18.5	—27.3	—20.7	—34.8
	Mean highest	27.5	26.6	28.4	27.7	30.6	28.6	25.1	24.7	21.7	21.5
	Mean lowest	10.8	12.9	11.7	10.5	14.9	13.2	5.4	2.8	3.2	— 1.9
	Monthly mean	19.2	19.8	20.1	19.1	22.7	20.9	15.3	13.8	12.5	9.8
March	Highest	54.1	58.0	58.5	56.3	60.0	56.3	51.5	50.8	48.3	50.7
	Lowest	— 3.4	— 1.9	— 0.7	— 1.4	5.2	4.0	— 6.7	—14.1	— 8.7	—24.0
	Mean highest	35.4	36.4	38.1	36.5	40.1	36.7	34.4	34.1	32.6	33.2
	Mean lowest	18.2	21.6	20.7	19.1	24.8	22.1	16.0	12.7	15.1	7.1
	Monthly mean	26.8	29.0	29.4	27.8	32.5	29.4	25.2	23.4	23.8	20.2
April	Highest	72.8	76.2	76.1	74.7	77.0	71.2	74.1	71.2	73.4	73.7
	Lowest	15.9	17.9	18.5	17.2	22.9	21.0	13.7	10.7	14.8	6.0
	Mean highest	49.4	52.2	53.4	52.5	53.3	50.9	52.0	49.8	50.8	50.7
	Mean lowest	31.4	34.2	32.8	31.9	35.6	34.1	30.8	28.6	31.3	26.2
	Monthly mean	40.4	43.2	43.1	42.2	44.4	47.5	57.9	39.2	41.0	38.4
May	Highest	80.3	82.3	82.8	81.1	84.7	79.6	82.6	81,3	82.9	84.2
	Lowest	28.3	28.9	29.4	28.7	38.2	31.6	27.9	26.7	30.9	23.8
	Mean highest	61.1	65.3	66.8	64.9	65.3	63.2	65.9	63.8	66.0	65.1
	Mean lowest	41.4	44.5	44.2	42.7	45.0	44.2	42.2	41.0	43.9	38.6
	Monthly mean	51.3	54.9	55.5	53.8	55.2	53.7	54.1	52.4	55.0	51.9
June	Highest	85.4	88.1	88.5	87.3	91.7	87.6	88.8	87.1	88.0	89.4
	Lowest	37.4	37.4	37.8	38.3	42.1	42.4	38.9	36.2	41.7	33.4
	Mean highest	70.8	75.1	76.5	75.3	76.9	74.2	76.2	74.7	75.6	75.4
	Mean lowest	50.7	53.5	53.2	51.9	55.1	53.9	51.3	50.4	53.9	48.0
	Monthly mean	60.8	64.3	64.9	63.6	66.0	64.1	63.8	62.6	64.8	61.7
July	Highest	87.3	91.8	92.0	90.1	95.4	91.0	91.6	89.4	90.9	91.4
	Lowest	43.5	42.8	43.7	43.9	48.5	48.1	43.9	42.4	47.8	40.4
	Mean highest	76.7	79.6	80.5	79.4	82.7	79.0	80.0	78.3	79.0	78.1
	Mean lowest	56.1	57.7	57.2	55.7	60.7	58.6	55.5	55.1	58.4	53.0
	Monthly mean	66.4	68.7	68.9	67.6	71.7	68.8	67.8	66.7	68.7	65.6
August	Highest	86.2	89.4	89.9	88.3	93.0	88.1	89.5	87.5	88.1	87.7
	Lowest	41.8	42.1	40.7	41.5	46.2	46.3	40.4	38.8	43.6	37.3
	Mean highest	73.8	76.7	78.0	77.0	80.1	76.5	77.5	75.8	76.0	74.7
	Mean lowest	55.3	55.9	54.5	52.5	58.4	54.0	53.3	52.8	55.5	50.4
	Monthly mean	64.6	66.3	66.6	64.8	69.3	65.3	65.4	64.3	65.8	62.6
September	Highest	84.9	86.8	86.6	85.6	90.3	84.9	86.0	83.7	83.9	83.5
	Lowest	34.3	34.0	32.0	31.7	36.6	36.7	31.6	30.8	33.4	29.1
	Mean highest	68.4	70.6	71.7	70.4	73.5	69.5	69.6	68.6	68.1	67.3
	Mean lowest	49.9	51.0	49.5	47.7	52.6	50.9	46.9	46.6	48.0	43.6
	Monthly mean	59.2	60.8	60.6	59.1	63.1	60.2	58.3	57.6	58.1	55.5
October	Highest	74.4	75.5	75.8	74.3	77.4	73.0	74.2	72.6	71.1	73.3
	Lowest	25.4	25.0	23.6	23.4	26.3	26.2	21.2	21.2	24.4	17.4
	Mean highest	56.1	56.9	58.0	56.6	60.6	56.4	55.7	55.5	54.1	53.3
	Mean lowest	39.8	40.6	38.2	37.0	41.3	40.1	36.3	36.5	37.1	33.2
	Monthly mean	48.0	48.8	48.1	46.8	51.0	48.3	46.0	46.0	45.6	43.3
November	Highest	61.2	62.5	62.1	61.4	65.3	59.9	59.2	58.6	57.3	55.6
	Lowest	14.7	13.5	13.1	11.7	17.8	15.6	6.5	7.5	7.4	0.2
	Mean highest	43.5	42.8	44.1	43.1	46.8	43.8	41.0	40.6	39.8	37.0
	Mean lowest	30.3	30.9	29.4	28.1	32.6	30.9	26.3	26.0	26.7	22.0
	Monthly mean	36.9	36.9	36.8	35.6	39.7	37.4	33.7	33.3	33.3	29.5
December	Highest	49.5	48.8	53.3	49.1	53.6	48.4	45.0	44.7	42.5	44.4
	Lowest	0.4	— 0.3	— 1.8	— 2.7	— 0.8	— 0.9	—12.8	—13.9	—15.1	—24.9
	Mean highest	33.5	31.9	33.2	32.3	36.1	33.8	29.3	29.4	25.2	25.9
	Mean lowest	20.6	21.2	20.0	18.3	23.1	21.1	13.7	12.7	10.2	4.5
	Monthly mean	27.1	26.6	26.6	25.3	29.6	27.5	21.5	21.1	17.7	15.2
Annual mean		43.6	45.0	45.2	43.8	47.5	45.4	43.7	41.2	41.5	38.4

RAIN AND SNOW.

TABLE III.—Summary of the total fall of rain and snow, and the number of days on which rain and snow fell in Ontario, during 1913, at stations reporting the whole year, and the average for the Province.

Stations.	Rain.		Snow.		Stations.	Rain.		Snow.	
	Inches.	Days.	Inches.	Days.		Inches.	Days.	Inches.	Days.
ALGOMA:					NIPISSING (*continued*):				
Bruce Mines	26.11	82	51.6	21	Rutherglen	19.46	79	67.6	28
BRANT:					NORFOLK:				
Bow Park	30.95	109	36.1	35	Port Dover	35.92	120	59.7	40
Brantford	32.06	62	25.2	16	ONTARIO:				
Paris	33.66	97	43.1	30	Uxbridge	27.83	84	56.5	27
BRUCE:					OXFORD:				
North Bruce	26.55	62	42.6	30	Woodstock	20.66	74	26.7	27
Southampton	23.23	104	88.5	60	PARRY SOUND:				
Wiarton	17.58	51	117.0	28	Emsdale	28.21	104	71.8	41
CARLETON:					Parry Sound	26.09	87	126.0	43
Ottawa	26.28	99	88.1	46	PEEL:				
DUFFERIN:					Alton	25.17	65	36.5	22
Grand Valley	23.39	76	42.8	23	PETERBOROUGH:				
ESSEX:					Lakefield	22.05	63	55.8	21
Cottam	31.90	71	34.4	13	Norwood	25.93	63	44.8	22
Windsor	31.06	81	29.0	15	Peterborough	19.86	65	42.0	19
ELGIN:					PERTH:				
Dutton	22.37	43	24.0	13	Listowel	25.52	49	98.6	31
Port Burwell	31.89	65	41.8	20	PRINCE EDWARD:				
Port Stanley	36.50	123	53.5	45	Bloomfield	22.54	55	31.5	16
FRONTENAC:					RENFREW:				
Kingston	28.45	115	50.6	46	Renfrew	16.99	82	92.9	37
Sydenham	30.73	40	31.5	13	Stonecliffe	19.33	109	24.2	51
HALTON:					SIMCOE:				
Georgetown	27.59	99	35.8	26	Barrie	19.75	103	92.8	63
HASTINGS:					Midland	15.08	54	28.8	17
Madoc	22.20	81	73.3	31	SUDBURY:				
HURON:					Porcupine	13.85	63	105.4	52
Clinton	28.14	100	90.7	41	THUNDER BAY:				
Goderich	22.84	98	58.8	21	Kakabeka Falls	22.97	70	58.1	34
Lucknow	28.84	103	63.5	52	Port Arthur	23.53	68	34.4	54
KENT:					Schreiber	27.19	70	130.5	32
Chatham	25.46	65	49.9	10	VICTORIA:				
Wallaceburg	23.33	68	24.5	20	Kinmount	16.64	55	82.0	38
LINCOLN:					Lindsay	25.26	108	48.4	26
Grimsby	36.52	90	18.3	14	WELLINGTON:				
Port Dalhousie (Grantham)	29.66	90	13.7	20	Elora	24.70	93	41.5	27
					Guelph	24.39	91	41.4	27
LAMBTON:					WELLAND:				
Birnam	33.41	66	62.3	26	Welland	27.83	89	37.9	22
LANARK:					WENTWORTH:				
Almonte	25.94	82	86.8	33	Stoney Creek	27.34	68	23.1	11
MacCue	25.23	58	32.0	9	YORK:				
Montague	26.70	77	54.3	20	Agincourt	23.34	84	30.3	39
LEEDS:					Aurora	31.83	60	49.5	24
Westport	32.41	63	49.9	27	Deer Park	20.20	77	23.7	15
MANITOULIN:					Toronto	25.00	104	37.1	35
Providence Bay	23.18	63	82.5	17	Wexford	23.29	68	18.5	9
MIDDLESEX:									
London	34.67	88	95.5	45					
Westminster	33.58	46	37.0	11	Average for the Province: 1913	25.73	79	53.9	30
MUSKOKA:					1912	27.09	85	78.0	40
Beatrice	25.26	72	110.5	41	1911	23.32	78	64.6	38
Gravenhurst	22.60	83	101.9	50	1910	23.01	76	80.3	44
NIPISSING:					1909	25.95	77	77.3	39
Cochrane	14.24	79	119.9	49					
Copper Cliff	18.37	70	32.8	33	1909-1913	25.02	79	70.8	38
Haileybury	22.47	94	103.0	70					
Montreal River	18.66	61	68.0	36	1882-1913	24.23	84	72.7	40

RAIN AND SNOW.

TABLE IV. Monthly summary of inches of rain and snow in precipitation in the several districts of Ontario in 1913; also the average derived from the thirty-two years, 1882-1913.

Districts.		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
West and Southwest:		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Rain.	1913	4.11	0.54	3.78	3.33	2.13	2.09	2.86	4.22	1.15	2.91	2.47	0.20	29.79
	1882-1913	1.22	1.17	1.39	1.98	3.16	2.84	2.61	2.66	2.52	2.72	2.29	1.50	26.06
Snow.	1913	9.4	9.4	13.3	0.8						0.2	5.5	4.1	42.7
	1882-1913	15.2	13.3	8.5	2.2						0.7	5.2	12.0	57.1
North and Northwest:														
Rain.	1913	0.84	0.33	1.52	2.09	1.83	1.76	2.53	3.05	2.22	3.89	2.34	0.21	22.61
	1882-1913.	0.73	0.47	0.96	1.55	2.69	2.64	2.89	2.80	3.01	2.99	1.90	0.88	23.51
Snow.	1913	18.4	21.4	19.2	3.8	0.4					2.7	6.8	7.8	80.5
	1882-1913	24.8	20.4	13.1	3.6	0.4					1.5	12.3	21.9	98.0
Centre:														
Rain.	1913	2.82	0.32	3.18	3.46	1.32	2.09	2.39	3.38	0.93	2.74	3.45	0.27	26.35
	1882-1913	1.11	0.91	1.34	1.95	2.85	2.66	2.87	2.21	2.35	2.50	2.09	1.30	24.14
Snow.	1913	11.0	9.8	8.9	0.3						0.5	0.9	5.5	36.9
	1882-1913	17.1	14.9	9.7	2.8						0.5	5.2	11.8	62.0
East and Northeast:														
Rain.	1913	2.04	0.06	2.78	2.21	2.43	1.15	2.05	3.07	2.24	3.03	2.85	0.25	24.16
	1882-1913	0.93	0.63	1.18	1.60	2.73	2.69	2.95	2.62	2.53	2.39	1.87	1.10	23.22
Snow.	1913	15.5	12.2	13.7	2.3	0.0					0.0	2.1	9.7	55.5
	1882-1913	20.3	16.6	11.0	3.2	0.1					0.8	7.5	14.3	73.8
The Province:														
Rain.	1913	2.45	0.31	2.82	2.77	1.93	1.77	2.46	3.43	1.64	3.14	2.78	0.23	25.73
	1882-1913	1.00	0.79	1.22	1.77	2.86	2.71	2.83	2.57	2.60	2.65	2.04	1.19	24.23
Snow.	1913	13.6	13.2	13.8	1.8	0.1					0.8	3.8	6.8	53.9
	1882-1913	19.3	16.3	10.6	2.9	0.1					0.9	7.6	15.0	72.7

SUNSHINE.

TABLE V. Monthly summary of bright sunshine at the principal stations in Ontario for 1913, showing the number of hours the sun was above the horizon, the hours of registered sunlight, the total for the year, and the average derived from the thirty-two years, 1882-1913.

Stations.		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.
Sun above the horizon		285.7	291.4	369.9	406.4	461.1	465.7	470.9	434.5	376.3	340.2	286.9	274.3	4463.3
Woodstock	1913	36.1	99.1	109.9	184.4	243.3	308.8	312.2	241.6	189.6	97.1	89.5	73.2	1984.8
	1882-1913	62.3	89.5	123.5	171.1	207.8	248.7	275.1	234.4	174.3	143.8	73.2	54.2	1857.9
Toronto	1913	54.0	116.6	127.7	209.3	266.5	309.7	327.5	270.5	236.5	125.9	85.1	86.9	2216.2
	1882-1913	77.3	107.3	150.5	191.1	220.7	261.3	284.5	251.1	207.6	153.3	83.0	65.0	2052.7
Lindsay	1913	39.2	101.5	90.2	192.0	215.1	248.2	264.0	219.8	191.8	104.4	80.0	71.9	1818.1
	1882-1913	75.1	102.6	148.2	189.1	209.4	240.8	256.8	231.0	189.3	134.8	72.2	56.0	1905.3
Kingston	1913	61.5	96.2	80.3	194.1	230.2	298.3	267.0	259.1	196.0	118.1	97.1	64.4	1962.3
	1882-1913	77.0	108.8	117.9	185.6	204.9	252.1	270.6	248.7	187.2	138.5	78.0	67.4	1966.7
Ottawa	1913	115.8	145.7	125.6	257.6	251.6	412.5	316.8	297.2	252.9	161.6	124.0	96.4	2557.7
	1882-1913	85.3	109.0	146.4	190.5	223.3	233.8	251.6	240.1	168.9	130.4	84.7	60.0	1924.0
Average of five stations	1913	61.3	111.8	106.7	207.5	241.4	315.5	297.5	257.6	213.4	121.4	95.1	78.6	2107.8
	1912	98.7	109.7	181.2	177.3	188.9	281.6	264.2	153.8	114.0	147.3	82.9	52.4	1852.0
	1882-1913	75.4	103.4	143.3	185.5	213.2	247.3	267.7	241.1	185.5	140.2	76.2	60.5	1941.3

RURAL AREA ASSESSED.

TABLE VI.—Showing by County Municipalities the rural area of Ontario as returned by Municipal assessors for 1913; also the comparative totals for the Province for the five years, 1909-1913.

Counties and Districts.	Acres of assessed land.	Acres cleared.	Acres of woodland.	Acres of slash land.	Acres of swamp, marsh or waste land.	Per cent. cleared.
Algoma	305,201	47,275	214,463	14,290	29,173	15.49
Brant	215,701	178,792	9,563	17,295	10,051	82.89
Bruce	929,370	567,660	137,623	95,531	128,556	61.08
Carleton	562,654	361,944	49,972	104,656	46,082	64.33
Dufferin	355,705	269,615	21,464	23,703	40,923	75.80
Dundas	236,978	175,132	22,194	33,545	6,107	73.90
Durham	370,783	302,499	24,859	7,514	35,911	81.58
Elgin	436,589	360,563	47,881	22,737	5,408	82.59
Essex	425,623	346,415	28,208	41,998	9,002	81.39
Frontenac	693,344	260,806	80,664	172,977	178,897	37.62
Glengarry	285,595	193,756	56,016	16,648	19,175	67.84
Grenville	273,082	186,412	31,028	17,287	38,355	68.26
Grey	1,064,636	693,993	119,878	78,715	172,050	65.19
Haldimand	280,967	239,115	32,337	8,050	1,465	85.10
Haliburton	581,395	45,587	276,036	51,404	208,368	78.41
Halton	223,943	170,908	16,945	29,291	6,799	76.32
Hastings	1,078,551	439,283	247,500	191,534	200,234	40.73
Huron	798,729	659,701	51,402	35,908	51,718	82.59
Kenora	73,484	3,996	13,123	46,308	10,157	5.44
Kent	567,520	464,193	34,072	50,478	18,777	81.79
Lambton	659,798	494,183	60,424	98,847	6,344	74.90
Lanark	670,881	328,756	178,640	42,679	120,806	49.00
Leeds	470,502	271,112	99,057	34,664	65,669	57.62
Lennox & Addington	444,628	261,971	92,021	50,107	40,529	58.92
Lincoln	190,711	162,490	15,482	10,755	1,984	85.20
Manitoulin	284,491	48,056	41,864	105,694	88,877	16.89
Middlesex	756,286	656,777	67,471	17,341	14,697	86.84
Muskoka	567,548	67,409	302,682	78,394	119,063	11.88
Nipissing	311,891	48,497	207,116	8,640	47,638	15.55
Norfolk	397,106	277,612	59,440	32,088	27,966	69.91
Northumberland	436,134	347,691	37,261	19,097	32,085	79.72
Ontario	505,308	378,631	23,967	48,367	54,343	74.93
Oxford	470,846	395,727	36,557	21,305	17,257	84.05
Parry Sound	622,509	85,706	403,023	65,394	68,386	13.77
Peel	288,461	261,969	8,848	6,202	11,442	90.82
Perth	518,596	449,551	35,304	25,415	8,326	86.69
Peterborough	595,952	255,773	143,304	97,765	99,110	42.92
Prescott	293,198	212,083	32,985	35,541	12,589	72.33
Prince Edward	234,027	194,365	17,940	3,709	18,013	83.05
Rainy River	290,681	27,507	177,514	22,324	63,336	9.46
Renfrew	1,054,351	363,944	398,217	109,476	182,714	34.52
Russell	250,797	142,446	29,985	75,570	2,796	56.80
Simcoe	968,313	683,464	98,074	142,672	44,103	70.58
Stormont	248,663	158,247	34,411	38,071	17,934	63.64
Sudbury	355,859	46,070	202,573	18,436	88,780	1.29
Thunder Bay	414,759	28,934	310,829	37,307	37,689	6.98
Timiskaming	293,249	21,346	191,701	15,872	64,330	7.28
Victoria	598,039	288,366	62,099	97,287	150,287	48.22
Waterloo	305,712	251,553	32,266	5,446	16,447	82.28
Welland	225,750	184,375	18,288	14,006	9,081	81.67
Wellington	627,927	503,512	32,224	16,587	75,604	80.19
Wentworth	269,623	213,370	15,150	12,360	28,743	79.14
York	531,581	435,990	28,339	21,592	45,660	82.02
The Province.						
1913	24,914,027	14,515,128	5,010,284	2,488,879	2,899,736	58.26
1912	24,799,117	14,447,258	5,366,855	2,366,337	2,718,666	58.26
1911	24,683,747	14,381,650	5,333,296	2,307,773	2,661,028	58.26
1910	24,706,699	14,323,478	5,293,094	2,320,820	2,769,307	57.97
1909	24,676,883	14,257,169	5,351,738	2,236,883	2,831,093	57.78

FALL WHEAT AND SPRING WHEAT.

TABLE VII.—Showing by County Municipalities of Ontario the area, produce and market value of Fall Wheat and Spring Wheat for the year 1913, together with the comparative totals for the Province for 1911 and 1912, and the annual average for various periods.

Counties and Districts.	Fall Wheat.				Spring Wheat.			
	Acres.	Bushels.	Per acre.	Market value.	Acres.	Bushels.	Per acre.	Market value.
				$				$
Algoma	197	6,343	32.2	6,159	858	19,562	22.8	18,799
Brant	19,008	471,398	24.8	394,560	182	3,640	20.0	3,058
Bruce	29,753	714,072	24.0	597,678	3,493	62,175	17.8	49,616
Carleton	371	11,019	29.7	10,931	7,025	132,773	18.9	125,736
Dufferin	4,212	88,873	21.1	76,342	2,850	47,880	16.8	39,453
Dundas	250	6,475	25.9	6,449	702	16,146	23.0	15,904
Durham	7,155	176,729	24.7	157,289	4,582	77,894	17.0	66,911
Elgin	23,255	588,352	25.3	490,097	80	1,656	20.7	1,365
Essex	16,639	459,236	27.6	384,840	241	3,880	16.1	3,298
Frontenac	510	10,659	20.9	9,646	1,512	23,890	15.8	22,457
Glengarry	60	1,572	26.2	1,588	2,340	47,502	20.3	45,412
Grenville	54	1,350	25.0	1,269	649	15,316	23.6	14,382
Grey	20,315	513,970	25.3	444,070	4,232	77,446	18.3	66,449
Haldimand	25,187	576,782	22.9	481,036	601	10,758	17.9	8,736
Haliburton	46	897	19.5	834	204	3,203	15.7	3,011
Halton	18,007	403,357	22.4	348,904	698	12,006	17.2	9,833
Hastings	7,640	154,328	20.2	142,445	2,001	32,416	16.2	29,920
Huron	29,645	761,877	25.7	643,024	1,800	34,020	18.9	27,828
Kent	39,223	1,059,021	27.0	869,456	381	7,620	20.0	6,439
Lambton	30,563	825,201	27.0	681,616	499	9,581	19.2	7,665
Lanark	928	14,848	16.0	14,061	4,783	82,268	17.2	77,085
Leeds	1,669	39,889	23.9	38,732	1,051	19,549	18.6	18,904
Lennox and Add.	2,356	54,424	23.1	47,839	1,713	27,579	16.1	24,931
Lincoln	13,627	336,587	24.7	288,455	367	7,780	21.2	6,675
Manitoulin	805	18,757	23.3	18,119	1,152	23,962	20.8	22,381
Middlesex	39,071	984,589	25.2	835,916	133	3,325	25.0	2,843
Muskoka	36	720	20.0	677	427	6,405	15.0	6,085
Nipissing	6	138	23.0	138	418	8,569	20.5	8,569
Norfolk	28,026	636,190	22.7	536,308	141	2,820	20.0	2,256
Northumberland	12,608	282,419	22.4	244,575	2,967	50,439	17.0	43,226
Ontario	11,704	277,385	23.7	235,500	4,060	74,298	18.3	61,444
Oxford	25,442	730,185	28.7	622,848	124	2,604	21.0	2,190
Parry Sound	104	2,465	23.7	2,465	1,163	23,260	20.0	22,097
Peel	17,563	423,268	24.1	365,280	2,111	39,898	18.9	32,836
Perth	28,311	730,424	25.8	619,400	482	9,640	20.0	7,818
Peterborough	8,547	176,068	20.6	155,468	1,900	31,730	16.7	27,637
Prescott	124	1,860	15.0	1,860	3,398	67,960	20.0	66,057
Prince Edward	4,368	110,074	25.2	95,764	445	8,322	18.7	7,265
Rainy R. & Kenora	297	9,059	30.5	8,606	561	14,025	25.0	12,623
Renfrew	2,043	45,559	22.3	40,137	31,906	510,496	16.0	437,495
Russell	99	1,980	20.0	1,980	1,931	39,972	20.7	38,973
Simcoe	66,163	1,587,912	24.0	1,337,022	5,292	90,493	17.1	77,733
Stormont	141	2,679	19.0	2,679	1,064	20,003	18.8	19,663
Sudbury	294	6,615	22.5	6,615	634	15,596	24.6	16,376
Thunder Bay	.....	.....	.....	.....	387	7,430	19.2	6,687
Timiskaming	61	1,464	24.0	1,552	510	10,965	21.5	11,404
Victoria	5,398	126,313	23.4	110,777	4,342	71,643	16.5	59,965
Waterloo	31,797	709,073	22.3	609,094	159	3,180	20.0	2,624
Welland	19,750	481,900	24.4	416,844	90	1,431	15.9	1,288
Wellington	10,278	251,811	24.5	217,061	3,292	65,181	19.8	53,970
Wentworth	15,525	378,810	24.4	322,746	248	3,844	15.5	3,221
York	27,302	690,741	25.3	603,708	4,400	84,920	19.3	70,059
The Province:								
1913	646,533	15,945,717	24.7	13,550,459	116,581	2,068,951	17.7	1,818,652
1912	759,888	15,039,885	19.8	13,795,968	123,080	2,302,339	18.7	2,072,266
1911	857,492	17,926,586	21.4	15,519,411	133,711	2,295,534	17.2	2,081,580
Averages(10 years)								
1902–1911	720,272	16,912,017	23.5	14,142,444	182,335	3,269,976	17.9	2,655,591
1892–1901	930,794	18,688,313	20.1	12,650,091	356,355	5,405,846	15.2	3,650,840
1882–1891	902,846	18,059,235	20.0	16,250,884	563,547	8,882,998	15.8	7,959,306
Average (32 years)								
1882–1913	842,048	17,730,664	21.1	14,305,644	351,938	5,623,734	16.0	4,579,634

BARLEY AND OATS.

TABLE VIII.—Showing by County Municipalities of Ontario the area, produce and market value of Barley and Oats for the year 1913, together with the comparative totals for the Province for 1911 and 1912, and the annual averages for various periods.

Counties and Districts.	Barley.				Oats.			
	Acres.	Bushels.	Per acre.	Market value.	Acres.	Bushels.	Per acre.	Market value.
				$				$
Algoma	1,195	37,404	31.3	24,537	10,062	414,554	41.2	179,087
Brant	9,203	279,771	30.4	152,475	28,640	1,177,104	41.1	422,580
Bruce	19,984	599,520	30.0	318,345	104,422	3,968,036	38.0	1,361,036
Carleton	8,364	263,466	31.5	157,289	87,261	2,993,052	34.3	1,170,283
Dufferin	15,435	416,745	27.0	218,791	65,468	2,166,991	33.1	751,946
Dundas	4,678	158,116	33.8	103,408	32,822	1,280,058	39.0	577,306
Durham	15,048	392,753	26.1	218,371	52,406	1,839,450	35.1	662,202
Elgin	8,456	284,967	33.7	155,592	48,270	2,123,880	44.0	756,101
Essex	11,107	319,882	28.8	166,019	72,305	2,465,601	34.1	784,061
Frontenac	5,865	127,857	21.8	82,340	42,350	1,156,155	27.3	508,708
Glengarry	4,350	135,720	31.2	83,875	37,980	1,420,452	37.4	535,510
Grenville	2,149	64,255	29.9	41,509	33,401	1,125,614	33.7	485,140
Grey	31,057	900,653	29.0	484,551	143,240	4,898,808	34.2	1,763,571
Haldimand	9,536	267,008	28.0	147,388	35,626	1,303,912	36.6	462,889
Haliburton	636	16,154	25.4	9,757	8,336	240,910	28.9	113,228
Halton	8,073	228,466	28.3	128,855	28,152	1,024,733	36.4	397,596
Hastings	16,992	409,507	24.1	258,399	83,104	2,401,706	28.9	1,078,366
Huron	36,327	1,107,974	30.5	616,034	128,497	4,934,285	38.4	1,697,394
Kent	21,304	685,989	32.2	357,400	67,100	2,851,750	42.5	935,374
Lambton	20,246	639,774	31.6	324,365	80,499	3,517,806	43.7	1,136,251
Lanark	5,778	134,050	23.2	78,151	48,171	1,247,629	25.9	520,261
Leeds	3,983	106,744	26.8	72,266	44,809	1,510,063	33.7	670,468
Lennox and Add	9,613	213,187	22.2	129,191	37,710	957,834	25.4	412,826
Lincoln	2,264	64,977	28.7	37,817	21,864	861,442	39.4	340,270
Manitoulin	2,087	73,880	35.4	45,953	7,012	299,412	42.7	125,454
Middlesex	19,261	637,539	33.1	328,970	104,150	4,509,695	43.3	1,497,219
Muskoka	564	12,746	22.6	7,558	13,906	375,462	27.0	163,701
Nipissing	891	22,275	25.0	15,036	8,250	309,375	37.5	131,484
Norfolk	5,095	158,455	31.1	86,675	37,642	1,392,754	37.0	511,141
Northumberland	11,756	312,710	26.6	181,372	58,652	1,870,999	31.9	742,787
Ontario	26,431	792,930	30.0	424,218	80,379	3,086,554	38.4	1,083,380
Oxford	16,385	594,776	36.3	318,800	75,924	3,431,765	45.2	1,201,118
Parry Sound	1,376	34,950	25.4	22,403	17,820	589,842	33.1	267,198
Peel	24,815	719,635	29.0	413,790	51,126	2,039,927	39.9	732,334
Perth	27,491	896,207	32.6	457,962	95,635	4,102,742	42.9	1,407,241
Peterborough	9,972	265,255	26.6	151,195	51,492	1,580,804	30.7	632,322
Prescott	5,919	155,078	26.2	88,705	50,639	1,519,170	30.0	565,131
Prince Edward	10,360	260,036	25.1	156,282	26,071	758,666	29.1	324,709
Rainy R'r. & Kenora	1,649	58,045	35.2	36,510	5,790	261,129	45.1	111,763
Renfrew	5,748	131,629	22.9	68,052	65,642	1,614,793	24.6	637,843
Russell	4,435	123,293	27.8	72,496	32,175	1,129,343	35.1	433,668
Simcoe	59,901	1,683,218	28.1	924,087	138,618	4,907,077	35.4	1,766,548
Stormont	3,939	103,202	26.2	61,508	30,810	1,025,973	33.3	412,441
Sudbury	915	31,568	34.5	19,730	9,504	370,656	39.0	179,027
Thunder Bay	588	18,169	30.9	11,810	3,230	141,474	43.8	59,419
Timiskaming	574	18,942	33.0	14,207	4,703	198,937	42.3	99,469
Victoria	19,941	448,555	24.5	250,742	61,973	1,995,531	32.2	720,387
Waterloo	12,381	370,192	29.9	209,158	54,513	2,076,945	38.1	791,316
Welland	1,811	46,362	25.6	27,075	25,083	895,463	35.7	355,499
Wellington	26,927	832,044	30.9	456,792	113,112	4,490,546	39.7	1,576,182
Wentworth	9,667	303,544	31.4	169,965	36,960	1,541,232	41.7	576,421
York	41,136	1,295,784	31.5	748,963	96,153	4,028,811	41.9	1,514,833
The Province:								
1913	623,658	18,255,958	29.3	10,136,759	2,699,459	98,426,902	36.5	36,342,489
1912	647,382	19,232,275	29.7	11,296,962	2,601,735	98,444,807	37.8	38,005,016
1911	616,977	16,248,129	26.3	12,000,154	2,699,230	84,829,232	31.4	37,494,695
Averages (10 yrs.)								
1902-1911	711,199	21,709,056	30.5	10,870,736	2,703,900	98,968,442	36.6	36,309,289
1892-1901	498,932	13,100,823	26.3	5,037,346	2,291,902	79,229,462	34.6	22,119,649
1882-1891	743,245	19,349,351	26.0	10,547,091	1,663,205	58,410,603	35.1	21,017,492
Average (32 yrs.)								
1882-1913	650,150	18,096,267	27.8	8,937,045	2,246,602	80,092,399	35.7	27,150,369

PEAS AND BEANS.

TABLE IX.—Showing by County Municipalities of Ontario the area, produce and market value of Peas and Beans for the year 1913, together with the comparative totals of the Province for 1911 and 1912, and the annual averages for various periods.

Counties and Districts.	Peas.				Beans.			
	Acres.	Bushels.	Per acre.	Market value.	Acres.	Bushels.	Per acre.	Market value.
				$				$
Algoma	1,499	33,877	22.6	35,639	6	90	15.0	162
Brant	2,592	52,358	20.2	46,494	981	14,028	14.3	23,006
Bruce	15,026	265,960	17.7	258,513	344	5,745	16.7	10,916
Carleton	847	13,976	16.5	15,541	492	7,380	15.0	13,801
Dufferin	4,834	76,861	15.9	70,789	19	285	15.0	570
Dundas	189	3,515	18.6	3,360	106	2,120	20.0	3,964
Durham	13,401	235,858	17.6	284,445	647	10,352	16.0	20,083
Elgin	1,274	25,225	19.8	23,459	10,557	166,801	15.8	258,542
Essex	106	1,760	16.6	1,760	738	11,956	16.2	20.923
Frontenac	713	10,125	14.2	9,376	265	5,300	20.0	10,600
Glengarry	608	11,734	19.3	11,734	98	1,666	17.0	3,099
Grenville	198	4,277	21.6	4,063	122	1,964	16.1	3,928
Grey	13,878	216,497	15.6	205,239	166	2,357	14.2	4.337
Haldimand	1,773	33,332	18.8	30,899	458	7,328	16.0	14,583
Haliburton	553	8,295	15.0	8,461	15	225	15.0	450
Halton	1,169	19,990	17.1	19.350	148	2,590	17.5	5,828
Hastings	3,623	45,650	12.6	45,650	697	6,970	10.0	14,776
Huron	9,735	186,912	19.2	173,267	6,823	111,897	16.4	191,344
Kent	1,098	21,411	19.5	21,261	28,906	410,465	14.2	669,058
Lambton	1,666	33,153	19.9	31,628	3,014	50,032	16.6	80,552
Lanark	1,292	24,031	18.6	24,800	325	5,103	15.7	9,849
Leeds	372	6,398	17.2	5,893	171	3,078	18.0	6,156
Lennox and Add'ton	1,510	23,254	15.4	22,835	267	4,005	15.0	7,489
Lincoln	1,102	21,489	19.5	21,059	351	5,862	16.7	12,134
Manitoulin	2,407	48,381	20.1	49,349	40	800	20.0	1,600
Middlesex	1,990	39,203	19.7	35,126	2,608	44,597	17.1	74,923
Muskoka	696	12,389	17.8	12,166	25	375	15.0	750
Nipissing	913	16,708	18.3	18,797	23	345	15.0	690
Norfolk	2,144	40,093	18.7	35,562	1,384	24,358	17.6	39,947
Northumberland	5,908	98,664	16.7	113,760	503	9,255	18.4	17,492
Ontario	7,189	155,282	21.6	148,450	253	4,048	16.0	6,598
Oxford	1,579	33,791	21.4	30,615	441	6,615	15.0	12,238
Parry Sound	2,443	47,150	19.3	49,790	15	225	15.0	450
Peel	2,101	38,658	18.4	35,759	61	915	15.0	1,830
Perth	3,353	73,431	21.9	65,133	83	1,245	15.0	2,428
Peterborough	10,484	156,212	14.9	174,957	114	1,710	15.0	3,420
Prescott	473	8,088	17.1	9,301	194	3,686	19.0	7,372
Prince Edward	4,517	74,079	16.4	75,338	840	14,532	17.3	26,884
Rainy Riv. & Kenora	63	1,430	22.7	1,602	.....	.....	.....	.....
Renfrew	11,356	143,086	12.6	163,404	260	3,120	12.0	6,708
Russell	572	9,681	17.1	11,036	205	3,588	17.5	7,176
Simcoe	12,432	187,723	15.1	180,214	343	5,900	17.2	10,620
Stormont	187	3,273	17.5	3,001	124	1,959	15.8	3,546
Sudbury	718	17,950	25.0	20.643	24	360	15.0	720
Thunder Bay	160	4,000	25.0	4,800	.....	.....	.....	.....
Timiskaming	818	20,368	24.9	24,442	.....	.....	.....	.....
Victoria	7,030	135,679	19.3	147,890	94	1,410	15.0	2,157
Waterloo	1,646	30,286	18.4	27,227	102	2,040	20.0	3,427
Welland	580	9,918	17.1	10,285	2,488	41,301	16.6	99,122
Wellington	8,429	172,795	20.5	158,107	54	1,080	20.0	2,160
Wentworth	573	10,314	18.0	10,211	157	1,884	12.0	3,900
York	7,484	143,693	19.2	135,071	488	8,296	17.0	16,592
The Province:								
1913	177,303	3,108,263	17.5	3,127,551	66,639	1,021,243	15.3	1,738,900
1912	221,524	3,667,005	16.6	4,047,354	69,703	1,182,132	17.0	2,280,173
1911	304,491	4,462,182	14.7	4,380,883	51,508	898,212	17.4	1,711,089
Averages (10 years):								
1902-1911	389,104	7,056,642	18.1	5,275,196	50,006	854,999	17.1	1,263,012
1892-1901	769,819	14,242,404	18.5	7,613,480	51,654	875,597	17.0	818,381
1882-1891	668,962	13,908,658	20.8	8,573,501	26,201	469,393	17.9	545,087
Average (32 years):								
1882-1913	583,677	11,214,134	19.2	6,931,146	44,217	756,352	17.1	946,371

RYE AND BUCKWHEAT.

TABLE X.—Showing by County Municipalities of Ontario the area, produce and market value of Rye and Buckwheat for the year 1913, together with the comparative totals for the Province for 1911 and 1912, and the annual averages for various periods.

Counties and Districts.	Rye.				Buckwheat.			
	Acres.	Bushels.	Per acre.	Market value.	Acres.	Bushels.	Per acre.	Market value
				$				$
Algoma	50	1,000	20.0	713	128	3,072	24.0	2,120
Brant	4,166	75,405	18.1	51,351	2,093	39,348	18.8	22,979
Bruce	869	14,165	16.3	9,476	4,286	70,719	16.5	42,219
Carleton	1,114	18,604	16.7	12,055	6,136	140,514	22.9	91,475
Dufferin	3,255	60,218	18.5	38,600	8,460	114,210	13.5	70,810
Dundas	560	10,640	19.0	7,629	1,856	43,059	23.2	27,170
Durham	11,901	202,317	17.0	129,483	9,202	132,509	14.4	88,384
Elgin	1,773	33,864	19.1	22,181	2,673	49,718	18.6	29,035
Essex	927	18,169	19.6	12,173	1,845	40,590	22.0	25,369
Frontenac	1,785	25,169	14.1	17,568	3,249	63,680	19.6	40,118
Glengarry	30	750	25.0	525	1,905	43,244	22.7	27,330
Grenville	797	15,223	19.1	10,717	4,910	106,056	21.6	66,603
Grey	1,043	20,651	19.8	14,249	10,387	150,612	14.5	88,710
Haldimand	120	1,920	16.0	1,263	1,488	30,950	20.8	20,891
Haliburton	144	2,880	20.0	1,921	900	17,910	19.9	11,283
Halton	333	6,127	18.4	4,136	1,298	22,845	17.6	13,935
Hastings	7,751	111,614	14.4	77,572	10,828	171,082	15.8	112,230
Huron	122	2,294	18.8	1,491	6,774	143,609	212	83,006
Kent	1,251	30,900	24.7	20,796	778	12,993	16.7	7,757
Lambton	371	6,752	18.2	4,051	348	7,726	22.2	4,404
Lanark	1,327	19,109	14.4	12,746	7,554	168,454	22.3	100,399
Leeds	841	15,054	17.9	11,546	4,662	102,564	22.0	65,949
Lennox and Add.	2,198	34,289	15.6	23,899	7,470	146,412	19.6	96,925
Lincoln	826	15,859	19.2	11,292	624	10,795	17.3	6,952
Manitoulin	232	3,921	16.9	2,549	216	5,227	24.2	3,429
Middlesex	1,393	27,860	20.0	18,945	1,022	21,462	21.0	12,920
Muskoka	84	1,940	23.1	1,358	295	5,163	17.5	3,454
Nipissing	6	105	17.5	74	209	4,598	22.0	3,219
Norfolk	11,482	180,267	15.7	119,517	9,680	194,568	20.1	125,885
Northumberland	13,082	200,155	15.3	129,901	13,192	225,583	17.1	151,366
Ontario	7,245	136,931	18.9	90,511	11,397	207,425	18.2	134,204
Oxford	1,120	19,824	17.7	12,965	2,391	55,232	23.1	36,619
Parry Sound	267	5,687	21.3	3,981	384	8,448	22.0	6,336
Peel	2,788	49,069	17.6	31,895	3,807	71,191	18.7	45,918
Perth	72	1,440	20.0	864	1,803	34,257	19.0	21,171
Peterborough	3,640	54,964	15.1	37,046	6,997	124,547	17.8	75,849
Prescott	255	5,100	20.0	3,060	1,552	32,437	20.9	20,727
Prince Edward	5,592	90,590	16.2	63,141	8,060	103,168	12.8	75,209
Rainy R. & Kenora	.....	.....	.....	.....	26	520	20.0	312
Renfrew	6,007	92,508	15.4	59,668	3,900	58,890	15.1	33,567
Russell	79	1,580	20.0	1,106	960	25,536	26.6	15,960
Simcoe	9,456	150,350	15.9	93,668	21,249	244,364	11.5	154,194
Stormont	182	3,676	20.2	2,621	3,390	79,665	23.5	47,321
Sudbury	192	4,800	25.0	3,600	550	13,750	25.0	10,313
Thunder Bay	80	1,600	20.0	1,200	27	675	25.0	405
Timiskaming	8	160	20.0	120	15	300	20.0	225
Victoria	1,496	21,243	14.2	14,233	8,879	140,288	15.8	90,486
Waterloo	2,470	44,460	18.0	30,633	2,039	40,168	19.7	26,953
Welland	538	9,953	18.5	7,057	2,107	35,187	16.7	23,153
Wellington	1,562	30,303	19.4	19,667	13,067	232,593	17.8	140,486
Wentworth	1,442	22,784	15.8	15,379	1,780	37,202	20.9	24,516
York	4,105	75,532	18.4	48,114	9,431	177,303	18.8	119,148
The Province:								
1913	118,429	1,979,775	16.7	1,310,306	228,279	4,012,418	17.6	2,549,398
1912	105,949	1,839,675	17.4	1,287,208	205,893	5,414,796	26.3	2,950,001
1911	98,652	1,562,971	15.8	1,326,510	189,039	3,852,231	20.4	2,324,992
Averages (10 yrs)								
1902-1911	112,424	1,877,432	16.7	1,129,754	131,168	2,871,668	21.9	1,503,428
1892-1901	129,188	2,088,786	16.2	937,885	131,005	2,450,389	18.7	949,189
1882-1891	103,636	1,683,211	16.2	1,010,057	69,230	1,413,900	20.4	586,472
Average (32 years)								
1882-1913	114,902	1,884,804	16.5	1,042,953	117,131	2,399,587	20.5	1,121,571

CORN.*

TABLE XI.—Showing by County Municipalities of Ontario, the area, produce and market value of Corn for husking and for fodder for the year 1913, together with the comparative totals for the Province for 1911 and 1912 and the annual averages for various periods.

Counties and Districts.	Corn for husking.				Corn for silo.			
	Acres.	Bushels.	Per acre.	Market value.	Acres.	Tons green.	Per acre.	Market value.
				$				$
Algoma	52	1,560	30.0	936	206	2,000	9.71	5,000
Brant	4,418	287,170	65.0	131,237	7,135	89,758	12.58	224,395
Bruce	623	37,380	60.0	18,428	9,881	83,791	8.48	209,477
Carleton	1,195	68,115	57.0	39,166	14,974	183,282	12.24	458,205
Dufferin	38	1,520	40.0	760	1,463	11,587	7.92	28,967
Dundas	3,054	244,320	80.0	129,734	8,687	102,767	11.83	256,917
Durham	1,955	113,977	58.3	51,974	7,669	67,947	8.86	169,867
Elgin	19,664	1,740,264	88.5	784,859	14,690	145,431	9.90	363,577
Essex	79,276	6,175,600	77.9	2,359,079	2,932	27,356	9.33	68,390
Frontenac	2,371	167,630	70.7	85,827	5,820	58,200	10.00	145,500
Glengarry	559	25,155	45.0	12,728	5,723	64,613	11.29	161,533
Grenville	2,929	210,595	71.9	116,459	5,178	47,275	9.13	118,187
Grey	553	33,180	60.0	16,590	15,168	121,344	8.00	303,360
Haldimand	2,991	200,397	67.0	84,968	4,373	42,899	9.81	107,247
Haliburton	240	8,400	35.0	5,040	201	1,178	5.86	2,945
Halton	773	45,607	59.0	22,804	5,180	51,800	10.00	129,500
Hastings	5,262	246,262	46.8	130,765	12,972	120,640	9.30	301,600
Huron	1,462	91,667	62.7	42,808	14,654	159,142	10.86	397,855
Kent	67,405	5,533,951	82.1	2,169,309	4,987	46,678	9.36	116,695
Lambton	22,630	1,688,198	74.6	732,678	14,606	129,117	8.84	322,793
Lanark	1,568	82,320	52.5	50,462	11,331	128,947	11.38	322,367
Leeds	3,899	290,086	74.4	151,425	10,112	101,120	10.00	252,800
Lennox and Add	2,545	114,525	45.0	59,438	5,104	50,734	9.94	126,835
Lincoln	6,329	478,472	75.6	251,676	3,383	35,319	10.44	88,297
Manitoulin	201	11,055	55.0	6,633	597	5,863	9.82	14,658
Middlesex	14,533	1,165,547	80.2	562,959	22,070	251,157	11.38	627,892
Muskoka	271	9,485	35.0	5,691	612	5,753	9.40	14,383
Nipissing	72	2,160	30.0	1,296	128	1,536	12.00	3,840
Norfolk	16,537	1,147,668	69.4	518,746	9,867	81,797	8.29	204,493
Northumberland	3,969	212,342	53.5	104,685	10,273	85,266	8.30	213,165
Ontario	1,383	65,001	47.0	32,045	12,864	146,650	11.40	366,625
Oxford	5,959	364,691	61.2	172,864	27,590	340,737	12.35	851,842
Parry Sound	116	3,480	30.0	2,088	131	1,127	8.60	2,818
Peel	352	17,600	50.0	7,920	6,287	60,607	9.64	151,518
Perth	440	22,000	50.0	9,526	16,374	199,763	12.20	499,408
Peterborough	172	6,880	40.0	4,128	5,644	56,440	10.00	141,100
Prescott	1,705	100,595	59.0	52,410	4,743	41,644	8.78	104,110
Prince Edward	6,846	296,432	43.3	149,402	5,822	49,487	8.50	123,718
RainyR'r.&Kenora	21	840	40.0	336	34	289	8.50	723
Renfrew	861	25,830	30.0	15,498	4,731	45,560	9.63	113,900
Russell	547	21,880	40.0	12,143	4,851	42,689	8.80	106,723
Simcoe	1,699	67,960	40.0	33,980	12,109	112,614	9.30	281,535
Stormont	1,496	104,720	70.0	54,559	7,346	67,951	9.25	169,877
Sudbury	32	960	30.0	576	19	152	8.00	380
Thunder Bay	.....	.....	.....	.....	.....	.....	.....	.....
Timiskaming	.....	.....	.....	.....	30	240	8.00	600
Victoria	281	10,678	38.0	5,339	6,256	68,816	11.00	172,040
Waterloo	785	50,240	64.0	25,070	10,245	129,292	12.62	323,230
Welland	7,466	464,385	62.2	240,551	2,968	24,011	8.09	60,028
Wellington	160	7,200	45.0	3,622	7,298	82,394	11.29	205,985
Wentworth	1,283	98,919	77.1	50,844	7,462	100,289	13.44	250,723
York	893	49,115	55.0	23,477	15,358	184,296	12.00	460,740
The Province:								
1913	299,871	22,214,014	74.1	9,545,538	388,138	4,059,345	10.46	10,148,363
1912	301,251	21,969,468	72.9	8,162,565	377,982	3,969,597	10.50	9,923,993
1911	308,350	21,913,290	71.1	9,693,994	335,935	3,764,227	11.21	9,410,568
Averages (10 years)								
1902-1911	325,515	22,988,755	70.6	8,780,681	236,330	2,731,936	11.56	5,652,083
1892-1901	294,076	21,218,057	72.2	5,314,705	157,611	1,777,533	11.28	3,555,065
Average (22 years)								
1892-1913	308,956	22,102,345	71.5	7,211,907	213,887	2,414,710	11.29	5,097,447

*The combined average for corn for the ten years, 1882-1891, is 195,878 acres, the average value of the produce for the same period being $3,701,611. The combined average for corn for the thirty-two years 1882-1913 is 420,667 acres, the average value of the produce for the same period being $9,620,373.

POTATOES AND CARROTS.

TABLE XII.—Showing by County Municipalities of Ontario, the area, produce and market value of Potatoes and Carrots for the year 1913, together with the comparative totals for the Province for 1911 and 1912, and the annual averages for various periods.

Counties and Districts.	Potatoes.				Carrots.			
	Acres.	Bushels.	Per acre.	Market value.	Acres.	Bushels.	Per acre.	Market value.
				$				$
Algoma	1,447	324,128	224	199,987	28	9,380	335	1,173
Brant	2,202	277,452	126	181,731	23	5,060	220	633
Bruce	4,654	502,632	108	327,716	78	17,082	219	2,135
Carleton	5,855	726,020	124	466,831	122	20,008	164	2,501
Dufferin	3,702	388,710	105	213,013	8	1,736	217	217
Dundas	1,645	235,235	143	138,789	22	6,050	275	756
Durham	3,408	446,448	131	275,905	21	6,300	300	788
Elgin	3,388	420,112	124	265,511	38	9,500	250	1,188
Essex	3,287	299,117	91	215,065	48	9,600	200	1,200
Frontenac	3,728	518,192	139	336,307	43	11,610	270	1,451
Glengarry	2,024	244,904	121	134,452	16	3,632	227	454
Grenville	2,628	315,360	120	190,162	50	15,300	306	1,912
Grey	6,041	567,854	94	362,859	132	29,436	223	3,679
Haldimand	1,516	165,244	109	116,332	22	6,468	294	808
Haliburton	621	53,406	86	36,476	9	1,260	140	158
Halton	1,589	179,557	113	125,331	20	6,000	300	750
Hastings	5,687	557,326	98	401,275	53	13,250	250	1,656
Huron	4,067	516,509	127	292,861	49	10,437	213	1,305
Kent	3,907	476,654	122	307,442	71	15,123	213	1,890
Lambton	3,440	412,800	120	262,128	87	21,054	242	2,632
Lanark	2,508	328,548	131	207,971	29	7,975	275	997
Leeds	2,777	319,355	115	211,413	45	8,595	191	1,074
Lennox & Adding'n	2,987	301,687	101	188,856	37	10,434	282	1,304
Lincoln	1,895	234,980	124	169,186	55	19,360	352	2,420
Manitoulin	763	125,132	164	69,824	30	6,960	232	870
Middlesex	7,053	973,314	138	559,656	63	16,065	255	2,008
Muskoka	1,334	121,394	91	88,011	60	10,980	183	1,373
Nipissing	1,145	176,330	154	105,798	46	13,800	300	1,725
Norfolk	3,534	420,546	119	244,337	56	12,824	229	1,603
Northumberland	3,844	426,684	111	274,784	43	8,600	200	1,075
Ontario	4,500	576,000	128	358,272	35	7,000	200	875
Oxford	2,976	392,832	132	258,091	21	6,447	307	806
Parry Sound	1,522	193,294	127	126,994	47	9,635	205	1,204
Peel	3,192	354,312	111	221,445	61	14,518	238	1,815
Perth	3,013	424,833	141	268,919	18	6,822	379	853
Peterborough	2,200	213,400	97	152,154	14	4,200	300	525
Prescott	2,403	269,136	112	167,133	70	19,600	280	2,450
Prince Edward	1,778	133,350	75	105,613	23	6,900	300	862
Rainy R'r & Kenora	684	151,848	222	89,135	25	8,050	322	1,006
Renfrew	4,230	461,070	109	310,300	56	8,400	150	1,050
Russell	1,536	172,032	112	103,735	89	17,533	197	2,192
Simcoe	8,664	892,392	103	512,233	112	26,656	238	3,332
Stormont	1,694	260,876	154	150,525	40	14,280	357	1,785
Sudbury	1,120	199,360	178	130,182	24	6,312	263	789
Thunder Bay	1,231	183,419	149	125,275	20	4,500	225	563
Timiskaming	670	106,530	159	70,416	32	8,000	250	1,000
Victoria	2,467	303,441	123	187,223	21	4,200	200	525
Waterloo	2,909	340,353	117	245,054	68	17,544	258	2,193
Welland	2,963	284,448	96	217,603	42	10,500	250	1,312
Wellington	5,357	653,554	122	406,511	59	19,842	338	2,480
Wentworth	4,623	531,645	115	379,063	12	3,600	300	450
York	7,253	870,360	120	558,771	107	33,598	314	4,200
The Province:								
1913	159,661	19,024,115	119	12,114,656	2,400	592,016	247	74,002
1912	158,888	21,346,394	134	13,604,052	2,742	747,207	273	93,401
1911	162,457	13,918,698	86	11,722,539	3,207	815,129	254	101,891
Averages (10 years)								
1902-1911	153,092	17,355,152	113	8,928,246	5,243	1,688,002	322	211,000
1892-1901	164,451	18,304,638	111	6,150,629	11,163	3,880,538	348	485,068
1882-1891	155,449	18,840,683	121	8,476,165	10,423	3,659,347	351	457,418
Average (32 years)								
1882-1913	157,765	18,292,976	116	8,164,660	8,545	2,925,565	342	365,696

MANGEL-WURZELS AND TURNIPS.

TABLE XIII. Showing by County Municipalities of Ontario the area, produce and market value of Mangel-Wurzels and Turnips for the year 1913, together with the comparative totals for the Province for 1911 and 1912, and the annual averages for various periods.

Counties and Districts.	Mangel-Wurzels.				Turnips.			
	Acres.	Bushels.	Per Acre.	Market Value.	Acres.	Bushels.	Per Acre.	Market value.
				$				$
Algoma	36	16,200	450	1,296	574	249,690	435	24,969
Brant	1,154	545,842	473	43,667	2,618	1,165,010	445	116,501
Bruce	3,079	932,937	303	74,635	3,994	1,086,368	272	108,637
Carleton	444	131,868	297	10,549	2,021	856,904	424	85,690
Dufferin	512	170,496	333	13,640	2,524	1,087,844	431	108,784
Dundas	116	31,900	275	2,552	105	42,000	400	4,200
Durham	1,918	832,412	434	66,593	4,216	2,314,584	549	231,458
Elgin	604	285,692	473	22,855	158	61,936	392	6,194
Essex	563	221,822	394	17,746	96	28,800	300	2,880
Frontenac	199	66,864	336	5,349	400	129,200	323	12,920
Glengarry	122	45,384	372	3,631	412	192,404	467	19,240
Grenville	119	45,815	385	3,665	322	126,868	394	12,687
Grey	2,791	784,271	281	62,742	5,659	1,624,133	287	162,413
Haldimand	354	136,644	386	10,931	96	37,152	387	3,715
Haliburton	30	4,500	150	360	261	63,684	244	6,368
Halton	1,532	641,908	419	51,353	836	337,744	404	33,774
Hastings	310	84,320	272	6,746	1,359	485,163	357	48,516
Huron	4,970	1,893,570	381	151,486	4,986	1,809,918	363	180,992
Kent	623	262,906	422	21,032	90	20,970	233	2,097
Lambton	970	406,430	419	32,514	263	79,689	303	7,969
Lanark	276	95,220	345	7,618	957	413,424	432	41,342
Leeds	156	59,124	379	4,730	458	194,650	425	19,465
Lennox & Addingt'n	114	32,376	284	2,590	198	65,736	332	6,573
Lincoln	311	133,108	428	10,649	54	23,760	440	2,376
Manitoulin	98	34,104	348	2,728	317	138,846	438	13,885
Middlesex	1,757	808,220	460	64,658	1,586	683,566	431	68,357
Muskoka	31	8,277	267	662	558	172,422	309	17,242
Nipissing	22	4,400	200	352	301	95,417	317	9,542
Norfolk	387	173,376	448	13,870	797	341,913	429	34,191
Northumberland	921	385,899	419	30,872	4,223	1,984,810	470	198,481
Ontario	3,736	1,707,352	457	136,588	9,652	5,067,300	525	506,730
Oxford	2,290	1,170,190	511	93,615	4,729	2,515,828	532	251,583
Parry Sound	58	18,444	318	1,476	780	294,060	377	29,406
Peel	1,107	367,524	332	29,402	1,375	453,750	330	45,375
Perth	4,102	1,919,736	468	153,579	3,519	1,668,006	474	166,800
Peterborough	740	278,240	376	22,259	2,202	1,054,758	479	105,476
Prescott	84	22,764	271	1,821	303	93,021	307	9,302
Prince Edward	73	32,850	450	2,628	73	31,025	425	3,103
Rainy R'r & Kenora.	55	17,930	326	1,434	100	41,600	416	4,160
Renfrew	179	44,392	248	3,551	826	230,454	279	23,045
Russell	142	41,322	291	3,306	549	201,483	367	20,148
Simcoe	2,671	833,352	312	66,668	7,452	2,518,776	338	251,878
Stormont	78	27,534	353	2,203	111	46,176	416	4,618
Sudbury	38	13,300	350	1,064	350	127,050	363	12,705
Thunder Bay	7	2,100	300	168	247	102,999	417	10,300
Timiskaming	34	11,900	350	952	184	64,400	350	6,440
Victoria	1,050	423,150	403	33,852	3,855	1,823,415	473	182,342
Waterloo	3,058	1,293,534	423	103,483	3,375	1,640,250	486	164,025
Welland	178	77,430	435	6,194	42	16,506	393	1,651
Wellington	4,089	1,692,846	414	135,428	10,228	4,827,616	472	482,762
Wentworth	1,568	793,408	506	63,473	2,029	941,456	464	94,146
York	4,712	1,870,664	397	149,653	5,152	2,215,360	430	221,536
The Province:								
1913	54,568	21,935,847	402	1,754,868	97,572	41,889,894	429	4,188,989
1912	60,103	27,671,114	460	2,213,689	101,529	49,561,566	488	4,956,157
1911	64,855	28,126,313	434	2,250,105	100,593	39,664,275	394	3,966,428
Averages (10 years)								
1902-1911	70,809	33,245,680	470	2,659,654	123,855	54,987,697	444	5,498,770
1892-1901	39,984	17,864,726	447	1,429,178	147,080	63,424,431	431	6,342,443
1882-1891	19,546	8,538,096	437	683,048	104,943	42,981,280	410	4,298,128
Average (32 years)								
1882-1913	44,315	20,190,374	456	1,615,230	123,683	53,293,298	431	5,329,330

SUGAR BEETS—MIXED GRAINS.

TABLE XIV.—Showing by County Municipalities of Ontario the area, produce and market value of Sugar Beets and Mixed Grains for the year 1913, together with the comparative totals for the Province for the past seven years, and the annual average for 1907-1913.

Counties and Districts.	Sugar Beets.				Mixed Grains.			
	Acres.	Bushels.	Per acre.	Market value.	Acres.	Bushels.	Per acre.	Market value.
				$ c				$
Algoma	18	9,000	500	1,12	769	27,146	35.3	16,152
Brant	200	89,800	449	11,225	5,330	205,738	38.6	106,778
Bruce	209	44,726	214	5,590	16,628	630,201	37.9	327,705
Carleton	299	80,132	268	10,016	11,213	430,579	38.4	207,970
Dufferin	304	104,880	345	13,110	9,717	302,199	31.1	149,589
Dundas	95	35,625	375	4,453	9,673	383,051	39.6	194,590
Durham	102	40,800	400	5,100	18,639	645,046	34.5	329,240
Elgin	241	89,411	371	11,176	8,205	336,405	41.0	174,258
Essex	230	69,000	300	8,625	5,041	173,915	34.5	98,610
Frontenac	154	50,512	328	6,314	4,388	115,843	26.4	66,957
Glengarry	68	17,000	250	2,125	4,680	163,800	35.0	87,797
Grenville	64	20,992	328	2,623	4,293	149,396	34.8	76,939
Grey	462	110,880	240	13,860	22,954	803,390	35.0	444.275
Haldimand	124	41,912	338	5,239	3,988	137,985	34.6	78,100
Haliburton	12	1,200	100	150	624	19,344	31.0	10,639
Halton	239	101,575	425	12,697	7,163	265,747	37.1	149,350
Hastings	110	29,150	265	3,643	6,100	182,390	29.9	109,799
Huron	717	182,835	255	22,854	18,867	752,793	39.9	401,991
Kent	5,175	1,904,400	368	238,050	6,377	241,051	37.8	120,284
Lambton	3,263	1,031,108	316	128,888	7,521	296,327	39.4	167,128
Lanark	163	61,614	378	7,702	8,724	280,913	32.2	161,525
Leeds	158	48,980	310	6,122	5,899	191,718	32.5	111,963
Lennox and Add.	71	21,229	299	2,653	6,247	174,291	27.9	108,932
Lincoln	243	103,761	427	12,970	2,441	84,947	34.8	42,813
Manitoulin	50	16,200	324	2,025	1,288	56,414	43.8	28,207
Middlesex	630	277,830	441	34,728	11,116	442,417	39.8	223,863
Muskoka	46	12,650	275	1,581	766	22,291	29.1	12,996
Nipissing	17	3,400	200	425	1,034	36,190	35.0	22,619
Norfolk	296	125,800	425	15,725	4,804	178,709	37.2	93,822
Northumberland.	65	20,800	320	2,600	10,502	331,863	31.6	176,883
Ontario	178	55,180	310	6,897	18,665	699,938	37.5	342,970
Oxford	477	207,495	435	25,937	16,394	726,254	44.3	353,686
Parry Sound	28	7,280	260	910	822	28,030	34.1	17,266
Peel	293	56,549	193	7,069	6,403	220,904	34.5	129,892
Perth	226	80,004	354	10,000	16,158	693,178	42.9	345,203
Peterborough	88	22,704	258	2,838	3,479	105,414	30.3	57,134
Prescott	132	34,716	263	4,338	2,898	87,809	30.3	40,743
Prince Edward	57	19,950	350	2,494	3,855	114,494	29.7	67,666
Rainy R. & Kenora	18	6,246	347	781	218	8,720	40.0	5,406
Renfrew	103	18,025	175	2,253	4,029	105,157	26.1	65.618
Russell	64	9,792	153	1,224	3,950	118,500	30.0	61,265
Simcoe	611	162,526	266	20,315	17,472	559,104	32.0	303,593
Stormont	76	32,908	433	4,113	4,005	148,986	37.2	78,367
Sudbury	27	10,800	400	1,350	723	27,47	38.0	16,484
Thunder Bay	.....	.....	.....	.....	307	12,280	40.0	6,140
Timiskaming	2	600	300	75	596	26,105	43.8	15,663
Victoria	43	15,050	350	1,881	9,478	307,087	32.4	162,449
Waterloo	1,503	405,810	270	50,726	19,216	710,992	37.0	365,450
Welland	40	15,120	378	1,901	2,371	72,790	30.7	40,180
Wellington	694	252,616	364	31,577	33,869	1,344,599	39.7	673,644
Wentworth	211	98,959	469	12,369	7,130	293,756	41.2	149,522
York	387	129,645	335	16,205	17,488	641,810	36.7	352,996
The Province:								
1913	19,083	6,389,177	335	798,647	414,517	15,113,480	36.5	7,953,111
1912	21,054	7,819,066	371	977,383	448,402	16,382,161	36.5	8,674,724
1911	24,664	8,941,659	363	1,117,707	486,112	14,845,595	30.5	9,104,141
1910	26,879	11,238,577	418	1,348,629	497,936	18,261,803	36.7	9,187,822
1909	19,812	7,001,565	353	840,188	474,530	16,199,434	34.1	8,825,196
1908	17,453	7,004,748	401	840,570	456,049	15,354,350	33.7	8,444,893
1907	16,851	8,237,044	489	988,445	443,100	14,202,511	32.1	7,811,381
rage (7 years) Ave1907-1913.	20,828	8,090,262	397	987,367	460,092	15,765,619	34.3	8,571,610

HAY AND CLOVER—ALL FIELD CROPS.

TABLE XV.—Showing by County Municipalities of Ontario the area, produce, and market value of Hay and Clover, and all field crops enumerated in Tables VII and XV for the year 1913, together with the comparative totals for the Province for 1911 and 1912, and the annual averages for various periods.

Counties and Districts.	Hay and Clover.				All Field Crops.		
	Acres.	Tons.	Per acre.	Market value.	Acres.	Value.	Per acre.
				$		$	$ c.
Algoma	22,102	27,122	1.23	340,652	39,227	858,506	21 89
Brant	37,699	69,989	1.86	757,981	127,644	2,690,651	21 08
Bruce	140,201	116,792	.83	1,602,386	357,524	5,324,508	14 89
Carleton	96,740	84,390	.87	1,315,640	244,473	4,193,679	17 15
Dufferin	66,020	57,530	.87	676,553	188,821	2,471,934	13 09
Dundas	52,127	68,224	1.31	878,725	116,687	2,355,906	20 19
Durham	55,449	66,417	1.20	925,189	207,719	3,683,282	17 73
Elgin	74,323	115,556	1.55	1,305,783	217,649	4,671,773	21 46
Essex	63,185	99,502	1.57	1,006,960	258,566	5,176,998	20 02
Frontenac	89,513	101,571	1.13	1,312,297	162,865	2,673,735	16 42
Glengarry	66,945	68,745	1.03	867,562	127,920	1,998,595	15 62
Grenville	48,829	64,699	1.33	831,382	106,692	1,981,627	18 57
Grey	162,542	129,487	.80	1,925,472	440,620	6,366,426	14 45
Haldimand	79,543	145,549	1.83	1,570,474	167,796	3,145,499	18 75
Haliburton	13,359	5,908	.44	106,344	26,191	317,425	12 12
Halton	40,291	54,179	1.34	768,258	115,501	2,222,254	19 24
Hastings	107,577	117,175	1.09	1,778,717	272,066	4,542,075	16 69
Huron	142,167	113,985	.80	1,629,986	411,662	6,555,526	15 92
Kent	82,203	133,015	1.62	1,314,188	330,879	7,178,528	21 70
Lambton	109,444	156,955	1.43	1,525,603	299,430	5,452,865	18 21
Lanark	73,384	57,152	.78	937,293	169,098	2,574,629	15 23
Leeds	73,764	96,319	1.31	1,288,748	154,826	2,937,654	18 97
Lennox & Addington	82,262	94,860	1.15	1,226,540	162,402	2,489,656	15 33
Lincoln	42,895	68,403	1.59	870,086	98,631	2,175,127	22 05
Manitoulin	20,242	23,027	1.14	356,919	37,537	764,583	20 37
Middlesex	123,967	175,195	1.41	2,069,053	352,403	7,020,036	19 92
Muskoka	27,825	19,515	.70	327,852	47,536	665,540	14 00
Nipissing	17,083	16,126	.94	258,016	30,564	581,620	19 03
Norfolk	55,841	94,397	1.69	953,410	187,713	3,537,488	18 85
Northumberland	69,779	76,263	1.09	1,139,369	222,287	3,766,393	16 94
Ontario	72,541	93,024	1.28	1,193,498	272,212	5,128,805	18 84
Oxford	79,795	124,977	1.57	1,502,224	263,637	5,748,041	21 80
Parry Sound	34,004	34,441	1.01	536,246	61,080	1,093,128	17 90
Peel	56,544	74,947	1.33	1,009,536	179,986	3,263,614	18 13
Perth	96,999	84,357	.87	1,099,172	298,079	5,135,477	17 23
Peterborough	51,044	30,098	.59	502,035	158,729	2,245,543	14 15
Prescott	74,156	52,867	.71	725,864	149,048	1,870,384	12 55
Prince Edward	44,766	61,702	1.38	792,871	123,546	2,072,949	16 78
Rainy River & Kenora	14,746	21,791	1.48	326,865	24,287	601,262	24 76
Renfrew	96,922	60,613	63	969,808	238,799	2,951,897	12 36
Russell	47,807	37,548	79	544,446	99,991	1,437,577	14 38
Simcoe	115,926	121,188	1.05	1,822,668	480,170	7,840,288	16 33
Stormont	44,150	51,290	1.16	635,996	98,833	1,654,823	16 74
Sudbury	17,528	16,598	95	265,568	32,692	686,122	20 99
Thunder Bay	5,417	8,209	1.52	147,762	11,701	374,529	32 00
Timiskaming	7,534	5,696	76	107,711	15,771	354,276	22 46
Victoria	59,199	46,580	79	717,332	191,803	2,859,620	14 91
Waterloo	52,868	63,816	1.21	963,622	199,134	3,943,285	19 80
Welland	59,350	99,817	1.68	1,203,793	127,867	2,713,536	21 22
Wellington	118,365	106,195	.90	1,493,102	356,840	6,059,536	16 98
Wentworth	51,502	100,058	1.94	1,310,760	142,172	3,437,729	24 18
York	90,382	110,704	1.22	1,564,248	332,231	6,608,314	19 89
The Province:							
1913	3,428,846	3,924,563	1.14	51,302,565	9,541,537	168,455,253	17 65
1912	3,367,369	5,220,713	1.55	61,449,429	9,574,474	185,790,341	19 40
1911	3,301,468	4,238,362	1.28	55,767,671	9,718,741	179,974,358	18 52
Averages (10 years)							
1902-1911	3,072,288	4,722,662	1.54	47,093,908	9,233,879	156,824,689	16 98
1892-1901	2,520,783	3,650,840	1.45	29,085,813	8,494,796	106,139,762	12 49
1882-1891	2,290,495	3,102,733	1.35	32,086,445	7,517,606	116,195,708	15 48
Average (32 years)	2,675,996	3,872,113	1.45	37,356,677	8,486,838	129,557,724	15 27

SUMMER FALLOW, PASTURE, ORCHARD, SMALL FRUITS, VINEYARD AND GARDEN.

TABLE XVI.—Showing by County Municipalities of Ontario the area of Summer Fallow, Pasture, Orchard, Small Fruits, Vineyard and Garden for the year 1913.

Counties and Districts.	Summer fallow.	Pasture.	Orchard.	Small Fruits.	Vine-yard.	Garden.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Algoma	516	5,719	332	93	.....	370
Brant	5,115	25,688	4,301	463	16	867
Bruce	14,512	138,112	9,040	393	69	1,346
Carleton	2,053	84,404	2,517	214	36	1,241
Dufferin	4,770	49,125	2,370	126	15	570
Dundas	608	40,900	2,692	96	27	648
Durham	4,665	52,709	12,182	469	36	884
Elgin	5,787	84,333	9,848	844	56	1,631
Essex	3,124	42,452	8,110	1,067	345	2,475
Frontenac	1,735	85,662	2,989	152	29	1,319
Glengarry	615	44,145	1,683	85	16	454
Grenville	830	58,257	1,725	104	23	636
Grey	11,301	152,031	14,056	303	74	1,670
Haldimand	11,041	34,987	5,784	425	92	930
Haliburton	204	13,764	240	28	12	194
Halton	5,920	25,734	8,920	1,677	229	716
Hastings	2,769	113,651	9,890	424	74	1,959
Huron	10,237	181,722	13,722	545	60	1,426
Kent	3,881	83,241	10,222	1,094	153	2,086
Lambton	5,151	134,924	13,339	741	43	2,017
Lanark	1,134	107,329	1,946	113	11	895
Leeds	727	89,639	2,648	153	26	991
Lennox and Addington	3,956	67,447	5,553	426	16	1,198
Lincoln	4,751	18,960	16,652	2,555	4,823	999
Manitoulin	393	6,962	377	17	6	234
Middlesex	9,282	226,842	14,005	935	62	2,664
Muskoka	487	16,118	404	83	2	682
Nipissing	759	8,836	39	32	1	444
Norfolk	9,815	39,577	9,704	1,340	26	1,463
Northumberland	5,538	69,497	19,813	802	17	1,331
Ontario	6,656	63,293	8,654	447	39	1,275
Oxford	5,209	84,070	8,949	597	77	1,750
Parry Sound	584	18,558	222	43	.....	644
Peel	8,581	49,490	5,799	919	179	805
Perth	11,107	100,331	6,179	318	62	1,021
Peterborough	4,158	61,338	2,888	197	15	1,108
Prescott	300	51,956	1,383	116	16	783
Prince Edward	1,228	38,996	11,606	587	25	747
Rainy River and Kenora	585	4,695	14	22	4	311
Renfrew	3,460	86,491	1,505	144	24	1,469
Russell	554	29,091	593	85	20	504
Simcoe	38,661	99,682	10,269	621	38	2,092
Stormont	230	39,451	1,802	102	16	482
Sudbury	1,072	4,424	19	27	.....	240
Thunder Bay	207	1,667	3	16	.....	133
Timiskaming	323	2,795	9	9	.....	218
Victoria	3,825	57,880	3,059	105	20	935
Waterloo	9,206	28,490	4,641	256	28	712
Welland	10,157	26,854	7,047	1,129	1,146	1,135
Wellington	8,576	85,369	6,240	314	66	1,115
Wentworth	6,113	29,746	11,127	1,864	2,920	1,560
York	16,019	52,712	9,653	643	46	1,650
The Province:						
1913	268,487	3,120,146	306,764	24,360	11,136	55,029
1912	278,317	3,082,671	310,096	24,699	11,634	56,716
1911	279,220	3,116,768	303,188	25,360	11,586	58,748
1910	254,038	3,159,712	298,347	24,384	11,390	57,982
1909	231,707	3,180,780	300,364	24,614	11,420	57,123

RATIOS OF AREAS UNDER CROP.

TABLE XVII.--Showing by County Municipalities of Ontario the number of acres under the various crops in 1913 per 1,000 acres of cleared land; together with the comparative average for the Province for 1911 and 1912, and the annual averages for various periods.

Counties and Districts.	Fall Wheat.	Spring Wheat.	Barley.	Oats.	Peas.	Beans.	Rye.	Buck-wheat.	Corn.	Potatoes.	*Other roots.	Hay and Clover.	Mixed Grains.
Algoma	4.2	18.1	25.3	212.8	31.7	.1	1.1	2.7	5.5	30.6	13.9	467.5	16. 3
Brant	106.3	1.0	51.5	160.2	14.5	5.5	23.3	11.7	64.6	12.3	22.3	210.9	29.8
Bruce	52.4	6.1	35.2	183.9	26.5	.6	1.5	7.6	18.5	8.2	13.0	247.0	29.3
Carleton	1.0	19.4	23.1	241.1	2.3	1.3	3.1	16.9	44.7	16.2	8.0	267.3	31.0
Dufferin	15.6	10.6	57.2	242.8	17.9	.1	12.1	31.4	5.6	13.7	12.4	244.9	36.0
Dundas	1.4	4.0	26.7	187.4	1.1	.6	3.2	10.6	67.0	9.4	1.9	297.6	55.3
Durham	23.7	15.1	49.7	173.3	44.3	2.1	39.3	30.4	31.8	11.3	20.7	183.3	61.6
Elgin	64.5	.2	23.5	133.9	3.5	29.3	4.9	7.4	95.2	9.3	3.1	206.1	22.7
Essex	48.0	.7	32.1	208.7	.3	2.1	2.7	5.3	237.3	9.5	2.7	182.4	14.6
Frontenac	2.0	5.8	22.5	162.4	2.7	1.0	6.8	12.5	31.4	14.3	3.0	343.2	16.8
Glengarry	.3	12.1	22.5	196.0	3.2	.5	.2	9.8	32.4	10.4	3.1	345.5	24.2
Grenville	.3	3.5	11.5	179.1	1.1	.7	4.3	26.3	43.5	14.1	3.0	261.9	23.0
Grey	29.3	6.1	44.8	206.3	20.0	.2	1.5	15.0	22.7	8.7	13.0	234.2	33.1
Haldimand	105.3	2.5	39.9	149.0	7.4	1.9	.5	6.2	30.8	6.3	2.5	332.7	16.7
Haliburton	1.0	4.5	14.0	182.9	12.1	.3	3.2	19.7	9.7	13.6	6.8	293.0	13.7
Halton	105.4	4.1	47.2	164.7	6.8	.9	1.9	7.6	34.8	9.3	15.4	235.8	41.9
Hastings	17.4	4.6	38.7	189.2	8.2	1.6	17.6	24.6	41.6	12.9	4.2	244.8	13.9
Huron	44.9	2.7	55.1	194.8	14.8	10.3	.2	10.3	24.4	6.3	16.2	215.5	28.5
Kent	84.5	.8	45.9	144.6	2.4	62.3	2.7	1.5	156.0	8.4	12.8	177.1	13.8
Lambton	61.8	1.0	41.0	162.8	3.3	6.1	.8	.7	75.4	7.0	9.3	221.5	15.2
Lanark	2.8	14.5	17.6	146.5	3.9	1.0	4.0	23.0	39.3	7.6	4.3	223.2	26.6
Leeds	6.2	3.9	14.7	165.3	1.4	.6	3.1	17.2	51.7	10.2	3.0	272.1	21.7
Lennox & Add	9.0	6.5	36.7	143.9	5.8	1.0	8.4	28.5	29.2	11.4	1.6	314.0	23.9
Lincoln	83.9	2.3	13.9	134.6	6.7	2.2	5.1	3.8	59.8	11.7	4.1	263.9	15.0
Manitoulin	16.8	24.0	43.4	145.9	50.1	.8	4.8	4.5	16.6	15.9	10.3	421.2	26.8
Middlesex	59.5	.2	29.3	158.6	3.0	4.0	2.1	1.6	55.7	10.7	6.2	188.8	16.9
Muskoka	.5	6.3	8.4	206.3	10.3	.4	1.2	4.4	13.1	19.8	10.3	412.8	11.4
Nipissing	.1	8.6	18.4	170.1	18.8	.5	.1	4.3	4.2	23.6	8.0	352.2	21.3
Norfolk	101.0	.5	18.4	135.6	7.7	5.0	41.4	34.9	95.1	12.7	5.5	201.1	17.3
Northumberland	36.3	8.5	33.8	168.7	17.0	1.4	37.6	37.9	41.0	11.1	15.1	200.7	30.2
Ontario	30.9	10.7	69.8	212.3	19.0	.7	19.1	30.1	37.6	11.9	35.9	191.6	49.3
Oxford	64.2	.3	41.5	191.9	4.0	1.1	2.8	6.0	84.8	7.6	19.0	201.6	41.4
Parry Sound	1.2	13.6	16.1	207.9	28.5	.1	3.1	4.4	2.9	17.8	10.6	396.8	9.6
Peel	67.1	8.1	94.7	195.2	8.0	.2	10.7	14.5	25.3	12.2	10.8	215.8	24.4
Perth	63.0	1.1	61.1	212.7	7.5	.2	.2	4.0	37.4	6.7	17.5	215.8	35.9
Peterborough	33.4	7.4	39.0	201.3	41.0	.4	14.2	27.4	22.7	8.6	11.9	199.6	13.6
Prescott	.6	16.0	27.9	238.8	2.2	.9	1.2	7.3	30.4	11.3	2.8	349.7	13.7
Prince Edward	22.5	2.3	53.3	134.1	23.2	4.3	28.8	41.5	65.2	9,1	1.2	230.3	19,8
Rainy R'r & Kenora	9.4	17.8	52.4	183.8	2.0	....	....	.8	1.7	21.7	6.3	468.1	6.9
Renfrew	5.6	87.7	15.8	180.3	31.2	.7	16.5	10.7	15.4	11.6	3.2	266.3	11.1
Russell	.7	13.6	31.1	225.9	4.0	1.5	.5	6.8	37.9	10.8	5.9	335.6	27.7
Simcoe	96.8	7.7	87.7	202.8	18.1	.5	13.8	31.1	20.2	12.7	15.9	169.6	25.6
Stormont	.9	6.7	24.9	194.7	1.2	.8	1.1	21.4	55.9	10.7	1.9	279.0	25.3
Sudbury	6.4	13.8	19.8	206.3	15.6	.5	4.2	11.9	1.1	24.3	9.5	380.5	15.7
Thunder Bay	.0	13.4	20.3	111.6	5.5	....	2.8	9.3	42.6	....	9.5	187.2	10.6
Timiskaming	2.9	23.9	26.9	220.3	38.3	....	.4	.7	1.4	31.4	11.8	352.9	27.9
Victoria	18.7	15.1	69.2	214.9	24.4	.4	5.2	30.8	22.7	8.6	17.2	205.0	32.9
Waterloo	126.4	.6	49.2	216.7	6.6	.4	9.8	8.1	43.8	11.6	31.8	210.2	76.4
Welland	107.1	.5	9.8	136.1	3.1	13.5	2.9	11.4	56.6	16.1	1.6	321.9	12.9
Wellington	20.4	6.5	53.5	224.6	16.8	.1	3.1	26.0	14.8	10.6	29.9	235.1	67.3
Wentworth	72.7	1.2	45.3	173.2	2.7	.7	6.8	8.3	41.0	21.7	17.9	241.4	33.4
York	62.6	10.1	94.4	220.5	17.2	1.1	9.4	21.6	37.3	16.6	23.8	207.3	40.1
The Province:													
1913	44.5	8.0	43.0	186.0	12.2	4.6	8.2	15.7	47.4	11.0	12.0	236.2	28.5
1912	52.6	8.5	44.8	180.1	15.3	4.8	7.4	14.3	47.0	11.0	12.8	233.1	31.0
1911	58.2	9.3	42.9	187.7	21,2	3.6	6.9	13.1	44.8	11.3	13.4	229.6	33.8
Average (10 yrs)													
1902-1911	51.3	13.0	50.7	192.8	27.7	3.6	8.0	9.4	40.1	10.9	15.8	219.0	†33.1
1892-1901	73.2	28.0	39.2	180.2	60.5	4.1	10.1	10.3	35.5	12.9	15.6	198.2	.....
1882-1891	81.6	50.9	67.2	150.4	60.5	2.4	9.4	6.2	17.7	14.0	12.2	207.1	.....
Average (32 yrs)													
1882-1913	66.2	27.7	51.1	176.6	45.9	3.5	9.0	9.2	33.1	12.4	15.5	210.4	‡32.2

*Including sugar beets. †Average for 5 years. ‡Average for 7 years.

MARKET PRICES.

TABLE XVIII.—The following table shows by counties the average prices of agricultural products for 1913, together with the average price for 1911 and 1912, and the annual averages for various periods.

Counties and Districts.	Fall Wheat, per bush.	Spring Wheat, per bush.	Barley, per bush.	Oats, per bush.	Peas, per bush.	Beans, per bush.	Rye, per bush.	Buckwheat, per bush.	Corn (in ear) per bush.	Hay, per ton.	Potatoes, per bush.
	cts.	cts.	cts.	cts.	cts.	$ c.	cts.	cts.	cts.	$ c.	cts.
Algoma	97.1	96.1	65.6	43.2	105.2	1 80	71 3	69.0	60.0	12 56	61.7
Brant	83.7	84.0	54.5	35.9	88.8	1 64	68 1	58.4	45.7	10 83	65.5
Bruce	83.7	79.8	53.1	34.3	97.2	1 90	66.9	59.7	49.3	13 72	65.2
Carleton	99.2	94.7	59.7	39.1	111.2	1 87	64.8	65.1	57.5	15 59	64.3
Dufferin	85.9	82.4	52.5	34.7	92.1	2 00	64.1	62.0	50.0	11 76	54.8
Dundas	99.6	98.5	65.4	45.1	95.6	1 87	71.7	63.1	53.1	12 88	59.0
Durham	89.0	85.9	55.6	36.0	120.6	1 94	64.0	66.7	45.6	13 93	61.8
Elgin	83.3	82.4	54.6	35.6	93.0	1 55	65.5	58.4	45.1	11 30	63.2
Essex	83.8	85.0	51.9	31.8	100.0	1 75	67.0	62.5	38.2	10 12	71.9
Frontenac	90.5	94.0	64.4	44.0	92.6	2 00	69.8	63.0	51.2	12 92	64.9
Glengarry	101.0	95.6	61.8	37.7	100.0	1 86	70.0	63.2	50.6	12 62	54.9
Grenville	94.0	93.9	64.6	43.1	95.0	2 00	70.4	62.8	55.3	12 85	60.3
Grey	86.4	85.8	53.8	36.0	94.8	1 84	69.0	58.9	50.0	14 87	63.9
Haldimand	83.4	81.2	55.2	35.5	92.7	1 99	65.8	67.5	42.4	10 79	70.4
Haliburton	93.0	94.0	60.4	47.0	102.0	2 00	66.7	63.0	60.0	18 00	68.3
Halton	86.5	81.9	56.4	38.8	96.8	2 25	67.5	61.0	50.0	14 18	69.8
Hastings	92.3	92.3	63.1	44.9	100.0	2 12	69.5	65.6	53.1	15 18	72.0
Huron	84.4	81.8	55.6	34.4	92.7	1 71	65.0	57.8	46.7	14 30	56.7
Kent	82.1	84.5	52.1	32.8	99.3	1 63	67.3	59.7	39.2	9 88	64.5
Lambton	82.6	80.0	50.7	32.3	95.4	1 61	60.0	57.0	43.4	9 72	63.5
Lanark	94.7	93.7	58.3	41.7	103.2	1 93	66.7	59.6	61.3	16 40	63.3
Leeds	97.1	96.7	67.7	44.4	92.1	2 00	76.7	64.3	52.2	13 38	66.2
Lennox and Add.	87.9	90.4	60.6	43.1	98.2	1 87	69.7	66.2	51.9	12 93	62.6
Lincoln	85.7	85.8	58.2	39.5	98.0	2 07	71.2	64.4	52.6	12 72	72.0
Manitoulin	96.6	93.4	62.2	41.9	102.0	2 00	65.0	65.6	60.0	15 50	55.8
Middlesex	84.9	85.5	51.6	33.2	89.6	1 68	68.0	60.2	48.3	11 81	57.5
Muskoka	94.0	95.0	59.3	43.6	98.2	2 00	70.0	66.9	60.0	16 80	72.5
Nipissing	100.0	100.0	67.5	42.5	112.5	2 00	70.0	70.0	60.0	16 00	60.0
Norfolk	84.3	80.0	54.7	36.7	88.7	1 64	66.3	64.7	45.2	10 10	58.1
Northumberland	86.6	85.7	58.0	39.7	115.3	1 89	64.9	67.1	49.3	14 94	64.4
Ontario	84.9	82.7	53.5	35.1	95.6	1 63	66.1	64.7	49.3	12 83	62.2
Oxford	85.3	84.1	53.6	35.0	90.6	1 85	65.4	66.3	47.4	12 02	65.7
Parry Sound	100.0	95.0	64.1	45.3	105.6	2 00	70.0	75.0	60.0	15 57	65.7
Peel	86.3	82.3	57.5	35.9	92.5	2 00	65.0	64.5	45.0	13 47	62.5
Perth	84.8	81.1	51.1	34.3	88.7	1 95	60.0	61.8	43.3	13 03	63.3
Peterborough	88.3	87.1	57.0	40.0	112.0	2 00	67.4	60.9	60.0	16 68	71.3
Prescott	100.0	97.2	57.2	37.2	115.0	2 00	60.0	63.9	52.1	13 73	62.1
Prince Edward	87.0	87.3	60.1	42.8	101.7	1 85	69.7	72.9	50.4	12 85	79.2
Rainy R. & Kenora	95.0	90.0	62.9	42.8	112.0	.....	.....	60.0	40.0	15 00	58.7
Renfrew	88.1	85.7	51.7	39.5	114.2	2 15	64.5	57.0	60.0	16 00	67.3
Russell	100.0	97.5	58.8	38.4	114.0	2 00	70.0	62.5	55.5	14 50	60.3
Simcoe	84.2	85.9	54.9	36.0	96.0	1 80	62.3	63.1	50.0	15 04	57.4
Stormont	100.0	98.3	59.6	40.2	91.7	1 81	71.3	59.4	52.1	12 40	57.7
Sudbury	100.0	105.0	62.5	48.3	115.0	2 00	75.0	75.0	60.0	16 00	65.3
Thunder Bay	.....	90.0	65.0	42.0	120.0	.....	75.0	60.0	.....	18 00	68.3
Timiskaming	106.0	104.0	75.0	50.0	120.0	.....	75.0	75.0	.....	18 91	66.1
Victoria	87.7	83.7	55.9	36.1	109.0	1 53	67.0	64.5	50.0	15 40	61.7
Waterloo	85.9	82.5	56.5	38.1	89.9	1 68	68.9	67.1	49.9	15 10	72.0
Welland	86.5	90.0	58.4	39.7	103.7	2 40	70.9	65.8	51.8	12 06	76.5
Wellington	86.2	82.8	54.9	35.1	91.5	2 00	64.9	60.4	50.3	14 06	62.2
Wentworth	85.2	83.8	56.0	37.4	99.0	2 07	67.5	65.9	51.4	13 10	71.3
York	87.4	82.5	57.8	37.6	94.0	2 00	63.7	67.2	47.8	14 13	64.2
The Province:											
1913	85.0	87.9	55.5	36.9	100.6	1 70	66.2	63.5	43.0	13 07	63.7
1912	91.7	90.0	58.7	38.6	110.3	1 93	70.0	54.5	37.2	11 77	63.7
1911	86.6	90.7	73.9	44.2	98.2	1 90	84.9	60.4	44.2	13 16	84.2
Averages (10 years)											
1902-1911	83.6	81.2	50.1	36.7	74.8	1 48	60.2	52.4	38.2	9 97	51.4
1892-1901	67.8	67.5	38.5	27.9	53.5	93	44.9	38.7	25.0	7 97	33.6
1882-1891	90.0	89.6	54.5	34.3	61.6	1 16	60.0	41.5	.....	10 34	45.0
Average (32 years)											
1882-1913	80.7	81.4	49.4	33.9	61.8	1 25	55.3	46.7	*32.6	9 65	44.6

* Average for 22 years, 1892-1913.

HORSES AND

TABLE XIX.—Showing by County Municipalities the number and value of Horses and Cattle June 30th, 1913, together with the totals

Counties and Districts.	Horses all ages.				Cattle	
	Number on hand.	Value.	Horses sold.		Milch cows on hand.	
			Number.	Value.	Number	Value.
		$		$		$
Algoma	2,957	487,905	319	50,083	3,974	216,305
Brant	9,946	1,442,170	870	134,850	12,685	703,130
Bruce	28,765	4,429,810	4,059	718,443	27,335	1,424,974
Carleton	17,118	2,858,706	2,088	375,840	35,795	1,844,158
Dufferin	13,074	1,948,026	1,818	276,336	12,067	612,642
Dundas	9,465	1,334,565	1,181	167,702	26,163	1,238,818
Durham	15,322	2,344,266	1,940	310,400	15,822	802,650
Elgin	19,299	2,856,252	2,245	347,975	26,356	1,475,145
Essex	23,818	3,382,156	2,853	416,538	17,120	844,358
Frontenac	11,108	1,499,580	1,236	174,276	26,989	1,210,727
Glengarry	10,110	1,486,170	1,080	155,520	26,520	1,298,950
Grenville	7,762	1,086,680	834	113,424	19,543	856,374
Grey	33,435	5,048,685	4,181	677,322	35,649	1,769,616
Haldimand	12,994	1,936,106	1,424	212,176	14,616	794,672
Haliburton	1,709	242,678	265	35,510	2,753	111,469
Halton	9,082	1,380,464	1,189	198,563	10,572	581,671
Hastings	18,985	2,714,855	2,189	299,893	41,846	1,806,492
Huron	34,735	5,592,335	6,665	1,206,365	30,859	1,720,389
Kent	29,065	4,272,555	3,125	490,625	20,604	1,070,790
Lambton	25,712	3,933,936	3,476	556,160	26,950	1,456,109
Lanark	12,402	1,885,104	1,788	273,564	24,901	1,158,893
Leeds	11,155	1,494,770	1,068	150,588	34,244	1,557,760
Lennox & Addington	11,890	1,605,150	1,088	156,672	21,957	1,013,535
Lincoln	9,107	1,366,050	850	129,200	8,059	428,013
Manitoulin	2,835	394,065	380	52,440	3,407	169,158
Middlesex	36,486	5,655,330	5,265	889,785	44,453	2,504,927
Muskoka	3,295	517,315	540	75,600	6,002	269,130
Nipissing	2,134	356,378	242	34,848	3,489	168,309
Norfolk	15,412	2,142,268	1,973	276,220	18,833	971,406
Northumberland	17,292	2,455,464	2,341	339,445	24,211	1,166,486
Ontario	21,555	3,384,135	3,262	551,278	23,020	1,314,902
Oxford	22,036	3,371,508	2,931	468,960	45,158	2,660,709
Parry Sound	3,797	618,911	503	71,426	5,909	276,600
Peel	14,026	2,188,056	2,021	327,402	17,738	977,719
Perth	25,782	4,099,338	3,780	672,840	34,182	1,821,217
Peterborough	12,057	1,796,493	1,451	217,650	18,440	867,786
Prescott	9,092	1,254,696	1,082	165,546	24,565	977,687
Prince Edward	9,787	1,360,393	1,168	165,856	14,902	751,061
Rainy River and Kenora	1,618	312,274	326	58,354	1,548	83,793
Renfrew	14,888	2,426,744	1,592	256,312	25,700	1,036,481
Russell	6,948	1,063,044	761	122,521	17,509	754,988
Simcoe	36,404	5,533,408	4,708	753,280	35,444	1,709,819
Stormont	7,825	1,079,850	833	124,117	22,783	1,049,613
Sudbury	1,839	310,791	359	58,517	2,673	134,131
Thunder Bay	647	120,989	23	4,140	1,127	69,299
Timiskaming	1,305	228,375	128	20,992	1,420	74,578
Victoria	15,082	2,232,136	2,434	382,138	16,624	846,162
Waterloo	14,721	2,208,150	2,005	326,815	16,951	932,814
Welland	10,090	1,483,230	1,127	163,415	10,535	545,397
Wellington	27,025	4,053,750	3,096	538,704	26,752	1,508,545
Wentworth	13,061	1,959,150	1,255	189,505	14,955	818,936
York	25,672	4,004,832	3,424	571,808	30,330	1,717,588
The Province:						
1913	751,726	113,240,047	96,841	15,507,939	1,032,039	52,176,881
1912	742,139	109,000,214	101,911	15,793,129	1,044,177	49,929,061
1911	737,916	103,373,206	105,741	15,616,714	1,045,610	47,377,588
1910	724,384	92,757,431	97,900	13,345,490	1,052,796	42,908,322
1909	728,308	87,682,689	76,461	9,825,476	1,075,496	41,077,721

CATTLE.

on hand July 1, 1913 and the number and value of those sold or slaughtered in the year ending for the Province for the past five years.

Cattle.						Counties and Districts.
Other cattle on hand.		Total on hand.		Sold or slaughtered.		
Number.	Value.	Number.	Value.	Number.	Value.	
	$		$		$	
5,654	126,763	9,628	343,068	2,667	96,652	Algoma.
16,870	461,057	29,555	1,164,187	11,315	498,086	Brant.
75,832	2,396,291	103,167	3,821,265	39,356	2,094,526	Bruce.
49,028	1,333,071	84,823	3,177,229	24,122	926,767	Carleton.
31,500	848,925	43,567	1,461,567	14,100	684,273	Dufferin.
18,779	377,833	44,942	1,616,651	9,121	311,391	Dundas.
30,029	718,894	45,851	1,521,544	16,749	740,976	Durham.
38,821	1,152,984	65,177	2,628,129	25,331	1,146,988	Elgin.
21,700	530,565	38,820	1,374,923	14,916	533,545	Essex.
24,812	526,014	51,801	1,736,741	12,559	375,640	Frontenac.
16,680	403,823	43,200	1,702,773	9,083	280,392	Glengarry.
15,979	341,152	35,522	1,197,526	7,688	253,396	Grenville.
86,208	2,530,205	121,857	4,299,821	42,882	2,133,380	Grey.
20,763	583,025	35,379	1,377,697	12,638	518,916	Haldimand.
5,272	110,079	8,025	221,548	2,432	71,501	Haliburton.
18,485	503,716	29,057	1,085,387	11,179	506,744	Halton.
42,406	811,651	84,252	2,618,143	21,193	551,018	Hastings.
90,379	3,045,772	121,238	4,766,161	49,500	2,705,670	Huron.
47,343	1,481,836	67,947	2,552,626	27,739	1,295,966	Kent.
67,064	2,173,544	94,014	3,629,653	36,093	1,750,511	Lambton.
42,326	967,996	67,227	2,126,889	18,825	743,211	Lanark.
24,972	468,475	59,216	2,026,235	12,029	396,476	Leeds.
24,974	553,424	46,931	1,566,959	11,853	415,922	Lennox & Addington.
8,875	233,590	16,934	661,603	6,244	233,213	Lincoln.
7,404	164,665	10,811	333,823	3,507	134,423	Manitoulin.
92,198	3,168,845	136,651	5,673,772	59,620	2,969,076	Middlesex.
9,537	192,552	15,539	461,682	4,875	146,250	Muskoka.
6,532	132,992	10,021	301,301	2,436	75,345	Nipissing.
20,294	495,174	39,127	1,466,580	14,864	505,376	Norfolk.
32,242	719,964	56,453	1,886,450	17,660	599,910	Northumberland.
45,920	1,342,242	68,940	2,657,144	24,626	1,271,194	Ontario.
44,614	1,462,893	89,772	4,123,602	29,174	1,323,916	Oxford.
11,627	253,934	17,536	530,534	5,201	169,657	Parry Sound.
27,646	857,579	45,384	1,835,298	15,170	744,089	Peel.
64,358	1,853,510	98,540	3,674,727	35,619	1,670,531	Perth.
29,722	685,687	48,162	1,553,473	14,372	509,056	Peterborough.
18,610	341,121	43,175	1,318,808	8,161	244,830	Prescott.
13,358	283,323	28,260	1,034,384	8,743	268,760	Prince Edward.
2,758	66,744	4,306	150,537	1,298	46,624	Rainy River and Kenora
48,895	1,054,665	74,595	2,091,146	20,695	738,191	Renfrew.
16,485	332,338	33,994	1,087,326	7,200	243,144	Russell.
74,025	1,869,872	109,469	3,579,691	35,949	1,519,924	Simcoe.
13,513	285,800	36,296	1,335,413	6,442	204,276	Stormont.
4,083	84,804	6,756	218,935	2,171	67,779	Sudbury.
1,231	32,966	2,358	102,265	773	30,247	Thunder Bay.
1,765	36,394	3,185	110,972	1,315	43,461	Timiskaming.
38,621	970,546	55,245	1,816,708	17,378	791,568	Victoria.
25,543	648,281	42,494	1,581,095	21,525	1,069,362	Waterloo.
12,695	318,518	23,230	863,915	8,487	311,133	Welland.
59,553	1,796,118	86,305	3,304,663	38,372	2,061,344	Wellington.
17,054	501,217	32,009	1,320,153	11,863	510,702	Wentworth.
31,772	948,712	62,102	2,666,300	23,193	1,216,473	York.
						The Province:
1,596,806	43,582,141	2,628,845	95,759,022	880,303	38,751,801	1913.
1,580,603	40,474,841	2,624,780	90,403,902	849,140	36,269,271	1912.
1,547,595	37,257,374	2,593,205	84,634,962	837,544	34,065,248	1911.
1,514,332	33,964,401	2,567,128	76,872,723	817,239	30,595,363	1910.
1,593,088	34,169,476	2,668,584	75,247,197	800,228	28,513,187	1909.

SHEEP, SWINE.

TABLE XX.—Showing by County Municipalities the number and value of Sheep, Swine and year ending June 30, 1913, together with the

Counties and Districts.	Sheep and Lambs.				Swine.	
	Number on hand.	Value.	Sold or slaughtered.		Number on hand.	Value.
			Number.	Value.		
		$		$		$
Algoma	7,402	43,672	3,383	18,336	4,095	35,913
Brant	9,869	67,701	5,466	33,938	23,066	230,199
Bruce	50,207	303,752	27,948	166,011	45,439	421,674
Carleton	23,734	150,948	11,345	71,587	32,666	332,867
Dufferin	25,605	165,408	13,245	77,483	27,210	247,883
Dundas	5,211	28,400	2,228	12,989	23,530	229,418
Durham	26,892	166,461	14,940	86,204	27,893	265,541
Elgin	22,917	145,981	13,490	79,186	53,987	492,901
Essex	21,550	120,465	10,825	58,996	109,669	974,957
Frontenac	14,190	78,187	7,491	42,099	17,553	166,578
Glengarry	6,308	38,668	3,199	17,275	14,490	148,957
Grenville	8,931	51,443	4,343	24,364	17,544	167,896
Grey	77,041	479,965	42,715	242,194	61,576	597,287
Haldimand	16,355	107,616	10,560	65,261	20,900	203,148
Haliburton	5,565	28,215	2,990	14,053	2,235	18,394
Halton	12,190	85,574	7,448	48,933	18,384	184,208
Hastings	38,766	207,786	18,714	98,436	43,104	431,902
Huron	31,971	228,912	19,003	122,189	62,783	602,717
Kent	24,665	163,776	12,596	78,095	107,091	942,401
Lambton	31,981	221,628	20,123	126,372	57,359	531,144
Lanark	35,472	204,673	15,824	93,045	21,558	212,346
Leeds	12,904	77,940	6,031	36,065	25,806	250,060
Lennox and Addington	12,248	68,834	6,492	34,083	20,530	211,870
Lincoln	7,033	49,794	4,461	30,023	13,753	137,255
Manitoulin	17,207	93,950	6,813	33,111	5,374	44,282
Middlesex	33,968	251,363	21,788	139,879	57,540	567,920
Muskoka	14,591	80,251	7,398	40,689	4,219	39,870
Nipissing	4,660	23,067	2,392	11,314	4,719	46,246
Norfolk	17,806	105,055	10,458	59,401	34,892	319,960
Northumberland	13,294	85,215	7,906	47,673	31,804	318,040
Ontario	35,470	241,196	19,166	128,604	45,426	439,724
Oxford	10,425	70,265	6,418	40,562	60,049	603,492
Parry Sound	17,980	99,250	7,165	34,535	5,702	52,858
Peel	8,077	55,408	5,430	36,761	26,162	261,097
Perth	14,686	99,131	8,532	53,240	68,020	703,327
Peterborough	14,837	92,286	7,889	45,677	19,868	187,554
Prescott	12,434	72,117	6,050	28,919	12,926	141,152
Prince Edward	6,582	41,598	3,541	20,042	15,330	149,468
Rainy River and Kenora	1,014	7,757	404	3,010	2,783	31,309
Renfrew	50,705	252,511	20,400	102,816	25,330	204,920
Russell	5,483	35,036	3,463	20,432	13,898	136,061
Simcoe	59,429	383,317	28,833	162,330	80,300	705,837
Stormont	4,200	24,444	2,046	11,376	19,301	185,097
Sudbury	3,599	18,823	1,440	7,704	3,331	33,410
Thunder Bay	59	354	19	95	1,362	13,620
Timiskaming	555	3,119	143	751	1,433	16,193
Victoria	25,850	157,944	11,970	67,750	29,561	281,421
Waterloo	7,235	46,883	5,410	36,139	36,288	345,825
Welland	8,792	54,335	5,181	31,345	12,990	131,978
Wellington	45,414	336,518	26,425	174,669	67,012	631,923
Wentworth	13,461	95,169	7,953	52,728	24,219	246,792
York	19,335	130,511	14,818	94,983	56,674	516,300
The Province:						
1913	996,155	6,242,672	534,311	3,163,752	1,618,734	15,393,192
1912	1,021,848	6,181,595	531,957	3,054,930	1,702,652	14,141,908
1911	1,040,245	6,213,021	505,015	2,839,888	1,744,983	14,593,917
1910	1,065,101	6,127,018	512,909	2,748,972	1,561,042	13,265,834
1909	1,130,667	6,262,493	533,441	2,767,635	1,551,187	11,144,135

AND POULTRY.

Poultry on hand on July 1, 1913, and the number and value of those sold or slaughtered in the totals for the Province for the past five years.

Swine.		Poultry of all classes.				Counties and Districts.
Sold or slaughtered.		Number on hand.	Value.	Sold or slaughtered.		
Number.	Value.			Number.	Value.	
	$		$		$	
5,389	65,961	60,089	34,113	29,869	19,116	Algoma.
30,451	444,585	156,613	78,052	76,133	47,202	Brant.
70,037	956,705	465,631	217,317	198,908	121,334	Bruce.
34,290	473,888	367,098	214,571	189,365	130,662	Carleton.
33,480	478,864	184,435	92,698	83,013	49,808	Dufferin.
30,672	400,883	232,921	123,547	88,471	57,506	Dundas.
40,604	588,758	285,578	144,042	124,884	73,682	Durham.
68,375	962,720	384,509	189,793	174,205	108,007	Elgin.
113,048	1,682,154	569,192	276,136	254,764	137,573	Essex.
24,892	335,295	184,371	100,373	118,755	74,816	Frontenac.
17,550	238,154	181,245	98,209	84,014	51,249	Glengarry.
21,504	296,325	179,494	92,608	82,937	51,421	Grenville.
82,012	1,168,671	550,137	260,457	248,659	151,682	Grey.
30,806	434,673	218,926	114,928	112,217	67,330	Haldimand.
2,508	30,196	28,450	14,206	12,943	7,766	Haliburton.
25,119	355,434	153,711	95,631	83,078	55,662	Halton.
49,604	682,055	359,979	117,254	163,020	96,182	Hastings.
94,420	1,353,983	637,526	308,043	276,341	165,805	Huron.
111,452	1,682,925	610,312	265,136	255,680	132,954	Kent.
70,862	1,023,247	553,422	262,563	239,893	146,335	Lambton.
27,897	402,275	204,069	102,320	90,355	54,213	Lanark.
29,460	389,167	212,160	113,143	98,072	59,824	Leeds.
25,640	349,217	196,444	101,205	94'194	54,633	Lennox & Addington.
18,635	272,071	160,020	81,322	96,725	60,938	Lincoln.
7,123	85,832	45,495	23,796	20,407	12,244	Manitoulin.
79,504	1,132,932	703,593	377,346	345,542	214,236	Middlesex.
6,283	79,983	75,673	35,260	37,421	20,582	Muskoka.
4,851	66,298	36,418	17,913	17,886	10,016	Nipissing.
46,630	636,033	298,674	143,493	142,984	78,641	Norfolk.
44,551	595,647	304,704	144,289	125,987	71,813	Northumberland.
63,146	943,401	350,385	191,715	174,505	113,428	Ontario.
84,325	122,440	366,530	187,191	159,767	95,860	Oxford.
7,352	95,429	75,026	36,937	35,227	21,488	Parry Sound.
35,865	507,848	238,124	142,415	142,740	95,636	Peel.
91,518	1,350,806	489,472	243,839	188,293	111,093	Perth.
29,179	391,582	214,724	111,004	97,149	60,232	Peterborough.
14,521	213,168	155,807	82,700	87,126	52,276	Prescott.
22,346	290,498	148,910	69,853	69,292	39,496	Prince Edward.
2,874	42,334	37,445	18,997	16,416	9,850	Rainy River and Kenora.
23,285	337,633	232,535	123,263	110,009	68,206	Renfrew.
14,949	227,972	114,780	63,313	62,534	38,771	Russell.
97,923	1,378,756	575,151	363,513	255,989	158,713	Simcoe.
22,793	309,985	157,512	81,414	72,125	43,275	Stormont.
2,811	41,041	35,736	18,725	19,021	11,413	Sudbury.
1,897	23,764	27,236	15,008	13,116	7,870	Thunder Bay.
2,348	33,107	35,124	17,781	18,150	10,890	Timiskaming.
38,955	532,515	260,163	135,984	113,764	68,258	Victoria.
54,021	776,282	220,277	99,059	93,093	50,270	Waterloo.
18,332	250,048	197,744	96,697	113,857	61,483	Welland.
97,157	1,347,568	404,158	210,288	194,019	126,112	Wellington.
29,355	412,731	193,722	118,661	108,613	71,685	Wentworth.
75,861	1,084,812	379,883	228,831	213,480	149,436	York.
						The Province:
2,078,462	28,378,551	13,511,383	6,956,952	6,325,007	3,848,973	1913.
2,088,874	26,656,149	13,024,983	6,121,323	5,501,913	3,208,860	1912.
1,963,937	25,318,455	12,942,293	5,905,318	5,011,313	2,835,085	1911.
1,844,405	23,029,692	12,460,787	5,393,031	4,164,715	2,114,214	1910.
1,986,432	21,407,549	12,086,580	4,411,386	4,177,583	1,951,076	1909.

WOOL CLIP, POULTRY ON HAND AND LIVE STOCK SOLD.

TABLE XXI. Showing by County Municipalities the number of pounds of wool, the number of turkeys, geese, ducks and other fowls on hand June 30th, 1913; also the value of all live stock sold or killed in the year ending June 30, 1913, together with the totals for the Province for the past five years.

Counties and Districts.	Wool Clip.	Poultry on Hand.				Total value of Live Stock sold or killed.
		Turkeys.	Geese.	Ducks.	Other fowl.	
	lbs.	No.	No.	No.	No.	$
Algoma	28,341	5,623	1,133	726	52,607	250,148
Brant	43,814	1,131	3,093	4,199	148,190	1,158,661
Bruce	179,238	29,409	18,260	25,701	392,261	4,057,019
Carleton	78,816	18,453	12,969	17,572	318,104	1,978,744
Dufferin	93,874	7,590	12,945	8,790	155,110	1,566,764
Dundas	16,308	18,549	6,775	6,121	201,476	950,471
Durham	113,518	10,032	12,433	9,080	254,033	1,800,020
Elgin	84,984	28,325	7,408	9,932	338,844	2,644,876
Essex	82,221	17,728	13,675	22,953	514,836	2,828,806
Frontenac	54,564	20,645	3,427	9,114	151,185	1,002,126
Glengarry	21,751	17,226	4,050	3,697	156,272	742,590
Grenville	28,492	12,613	4,739	5,706	156,436	738,930
Grey	267,962	34,750	23,091	25,943	466,353	4,373,249
Haldimand	61,238	6,391	5,184	7,659	199,692	1,298,356
Haliburton	19,403	2,541	351	399	25,159	159,026
Halton	48,784	3,681	5,752	7,288	136,990	1,165,336
Hastings	110,281	21,905	7,845	8,402	321,827	1,727,584
Huron	113,199	34,254	17,605	33,176	552,491	5,554,012
Kent	97,631	20,770	12,099	29,159	548,284	3,680,565
Lambton	128,844	42,542	12,632	20,341	477,907	3,602,625
Lanark	107,895	12,705	2,851	2,434	186,079	1,566,308
Leeds	41,155	23,335	5,228	7,621	175,976	1,032,120
Lennox & Addington	38,513	12,846	3,696	5,229	174,673	1,010,527
Lincoln	23,953	3,356	1,201	5,255	150,208	725,445
Manitoulin	64,108	6,382	1,521	1,302	36,290	318,050
Middlesex	144,267	60,745	14,990	22,512	605,346	5,345,908
Muskoka	47,055	2,834	461	1,493	70,885	363,104
Nipissing	15,696	1,400	687	660	33,671	197,821
Norfolk	63,497	11,414	4,297	7,036	275,927	1,555,671
Northumberland	54,234	12,708	5,505	9,767	276,724	1,654,488
Ontario	159,685	6,807	15,516	13,204	314,858	3,007,905
Oxford	40,905	12,296	7,047	11,552	335,635	2,051,738
Parry Sound	57,394	5,140	1,544	955	67,387	392,535
Peel	29,622	13,795	9,639	12,976	201,714	1,711,736
Perth	53,595	11,610	20,644	26,321	430,897	3,858,510
Peterborough	55,189	12,725	6,556	6,758	188,685	1,224,197
Prescott	42,050	12,415	4,786	2,874	135,732	704,739
Prince Edward	20,581	4,499	2,521	3,507	138,383	784,652
Rainy River & Kenora	3,719	2,485	401	708	33,851	160,172
Renfrew	145,672	12,903	7,864	4,319	207,449	1,503,158
Russell	18,791	5,204	4,160	5,048	100,368	652,840
Simcoe	226,485	34,868	22,736	18,354	499,193	3,973,003
Stormont	13,655	12,255	1,676	3,772	139,809	693,029
Sudbury	10,308	2,209	473	277	32,777	186,454
Thunder Bay	224	1,633	164	418	25,021	66,116
Timiskaming	2,895	233	203	1,095	33,593	109,201
Victoria	115,855	17,634	12,962	10,027	219,540	1,842,229
Waterloo	28,461	1,693	5,555	4,647	208,382	2,258,868
Welland	30,906	3,282	2,280	9,512	182,670	817,424
Wellington	183,337	10,615	19,465	16,120	357,958	4,248,397
Wentworth	50,073	1,328	4,090	5,596	182,758	1,237,351
York	84,207	12,349	12,988	20,427	334,119	3,117,512
The Province:						
1913	3,647,245	699,861	389,173	497,734	11,924,615	89,651,116
1912	3,669,419	660,843	362,674	415,251	11,586,215	84,982,339
1911	3,780,798	638,943	365,876	404,679	11,532,795	80,675,390
1910	4,010,300	629,313	347,705	378,969	11,104,800	71,833,731
1909	4,218,475	.....	.....	.....	.....	64,464,923

FARM PROPERTY, IMPLEMENTS AND LIVE STOCK.

TABLE XXII.—Showing by County Municipalities of Ontario the value of farm lands, buildings, implements and live stock for the year 1913, together with the totals for the Province for the past five years.

Counties and Districts.	Land.	Buildings.	Implements.	Live Stock on hand	Total.
	$	$	$	$	$
Algoma	3,209,273	1,146,234	407,156	944,671	5,707,334
Brant	10,477,335	5,575,958	1,234,755	2,982,309	20,270,357
Bruce	25,428,408	11,424,043	2,778,352	9,193,818	48,824,621
Carleton	21,877,061	8,333,892	2,467,908	6,734,321	39,413,182
Dufferin	11,588,224	5,182,593	1,265,022	3,915,582	21,951,421
Dundas	9,965,660	4,709,658	1,422,329	3,332,581	19,430,228
Durham	13,796,259	6,719,558	1,666,791	4,441,854	26,624,462
Elgin	20,489,744	9,252,026	2,482,909	6,313,056	38,537,735
Essex	28,192,609	10,271,913	3,089,366	6,128,637	47,682,525
Frontenac	10,490,862	4,776,450	1,365,477	3,581,459	20,214,248
Glengarry	10,064,994	4,724,735	1,438,325	3,474,777	19,702,831
Grenville	7,241,529	3,832,059	945,925	2,596,153	14,615,666
Grey	27,934,557	14,029,764	3,640,330	10,686,215	56,290,866
Haldimand	10,550,727	5,597,531	1,491,433	3,739,495	21,379,186
Haliburton	1,467,537	439,048	203,231	525,041	2,634,857
Halton	12,631,366	5,158,388	1,174,891	2,831,264	21,795,909
Hastings	17,975,762	8,097,809	2,552,510	6,149,940	34,776,021
Huron	31,312,726	14,740,658	3,457,401	11,498,168	61,008,953
Kent	33,517,929	12,908,450	3,664,909	8,196,494	58,287,782
Lambton	25,912,373	10,510,910	2,975,661	8,578,924	47,977,868
Lanark	12,657,004	5,092,083	1,586,829	4,531,332	23,867,248
Leeds	11,745,795	5,455,437	1,505,278	3,962,148	22,668,658
Lennox & Addington	11,264,940	5,281,873	1,497,035	3,554,018	21,597,875
Lincoln	17,959,085	6,478,225	1,412,902	2,296,024	28,146,236
Manitoulin	1,768,599	823,179	291,616	889,916	3,773,310
Middlesex	37,457,565	16,286,625	3,646,795	12,525,731	69,916,716
Muskoka	3,357,007	1,472,696	475,319	1,134,378	6,439,400
Nipissing	2,984,826	904,337	446,880	744,905	5,080,948
Norfolk	14,062,421	6,880,795	1,831,156	4,177,356	26,951,728
Northumberland	15,289,014	7,843,275	1,952,087	4,889,458	29,973,834
Ontario	20,060,118	9,897,609	2,386,225	6,913,914	39,257,866
Oxford	24,950,510	12,022,124	2,880,713	8,356,058	48,209,405
Parry Sound	3,479,718	1,498,882	570,609	1,338,490	6,887,699
Peel	15,621,097	7,319,945	1,543,613	4,482,274	28,966,929
Perth	24,464,902	12,391,611	2,886,483	8,820,362	48,563,358
Peterborough	12,158,581	5,139,301	1,223,149	3,740,810	22,261,841
Prescott	11,953,219	4,944,291	1,442,632	2,869,473	21,209,615
Prince Edward	8,474,776	4,422,048	1,164,106	2,655,696	16,716,626
Rainy River & Kenora	2,633,831	546,492	254,595	520,874	3,955,792
Renfrew	15,605,630	5,919,524	2,085,892	5,098,584	28,709,630
Russell	9,879,262	3,732,807	1,201,237	2,384,780	17,198,086
Simcoe	32,535,694	15,182,317	3,831,495	10,565,766	62,115,272
Stormont	8,305,536	3,937,256	1,111,405	2,706,218	16,060,415
Sudbury	3,142,898	718,136	336,865	600,684	4,798,583
Thunder Bay	3,776,002	442,158	201,318	252,236	4,671,714
Timiskaming	2,660,672	585,513	288,866	376,440	3,911,491
Victoria	14,233,453	5,371,950	1,504,647	4,624,193	25,734,243
Waterloo	14,711,390	7,565,219	1,872,334	4,281,012	28,429,955
Welland	11,442,053	5,459,349	1,394,716	2,630,155	20,926,273
Wellington	23,634,270	12,738,050	2,741,763	8,537,142	47,651,225
Wentworth	19,356,537	7,691,266	1,766,618	3,739,925	32,554,346
York	37,242,504	13,827,285	2,642,414	7,546,774	61,258,977
The Province:					
1913	782,993,853	345,303,335	89,702,273	237,591,885	1,455,591,346
1912	758,729,268	335,141,520	86,231,210	225,848,942	1,405,950,940
1911	723,902,419	317,876,963	84,969,426	214,720,424	1,341,469,232
1910	700,905,425	306,517,941	81,570,981	194,416,037	1,283,410,384
1909	680,789,629	297,690,826	77,790,754	184,747,900	1,241,019,109

FARM VALUES PER ACRE.

TABLE XXIII.—Showing by County Municipalities of Ontario, average values per acre of farm property in 1913, together with the average for the Province for 1912 and preceding years at five year intervals, from 1882–1907.

Counties and Districts.	Farm values, average per acre occupied.					Values buildings, Implements, and live stock, per acre, cleared
	Land.	Buildings.	Implements.	Live Stock.	Total.	
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Algoma	10 51	3 76	1 33	3 10	18 70	52 84
Brant	48 57	25 85	5 72	13 83	93 97	54 77
Bruce	27 36	12 30	2 98	9 89	52 53	41 22
Carleton	38 88	14 81	4 39	11 87	70 05	48 45
Dufferin	32 58	14 56	3 56	11 01	61 71	38 44
Dundas	42 05	19 88	6 00	14 06	81 99	54 04
Durham	37 21	18 12	4 49	11 98	71 80	42 41
Elgin	46 93	21 19	5 69	14 46	88 27	50 06
Essex	66 24	24 13	7 26	14 40	112 03	56 26
Frontenac	15 13	6 89	1 97	5 16	29 15	37 28
Glengarry	35 24	16 54	5 04	12 17	68 99	49 74
Grenville	26 52	14 03	3 46	9 51	53 52	39 56
Grey	26 24	13 18	3 42	10 03	52 87	40 86
Haldimand	37 55	19 92	5 31	13 31	76 09	45 29
Haliburton	2 52	0 76	35	0 90	4 53	25 61
Halton	56 40	23 03	5 25	12 64	97 32	53 63
Hastings	16 67	7 50	2 37	5 70	32 24	38 24
Huron	39 20	18 46	4 32	14 40	76 38	45 01
Kent	59 06	22 75	6 46	14 44	102 71	53 36
Lambton	39 27	15 93	4 51	13 00	72 71	44 65
Lanark	18 87	7 59	2 37	6 75	35 58	34 10
Leeds	24 96	11 59	3 20	8 43	48 18	40 29
Lennox and Addington	25 34	11 88	3 37	7 99	48 58	39 44
Lincoln	94 17	33 97	7 41	12 04	147 59	62 69
Manitoulin	6 22	2 89	1 02	3 13	13 26	41 72
Middlesex	49 53	21 54	4 82	16 56	92 45	49 42
Muskoka	5 92	2 59	0 84	2 00	11 35	45 73
Nipissing	9 57	2 90	1 43	2 39	16 29	43 22
Norfolk	35 41	17 33	4 61	10 52	67 87	46 43
Northumberland	35 06	17 98	4 48	11 21	68 73	42 24
Ontario	39 70	19 59	4 72	13 68	77 69	50 70
Oxford	52 99	25 53	6 12	17 75	102 39	58 78
Parry Sound	5 58	2 41	0 92	2 15	11 06	39 76
Peel	54 15	25 38	5 35	15 54	100 42	50 94
Perth	47 17	23 89	5 57	17 01	93 64	53 61
Peterborough	20 40	8 62	2 05	6 28	37 35	39 50
Prescott	40 77	16 86	4 92	9 79	72 34	43 65
Prince Edward	36 21	18 90	4 97	11 35	71 43	42 40
Rainy River and Kenora	7 24	1 50	0 69	1 43	10 86	41 96
Renfrew	14 80	5 61	1 98	4 84	27 23	36 01
Russell	39 39	14 88	4 79	9 51	68 57	51 38
Simcoe	33 60	15 68	3 96	10 91	64 15	43 28
Stormont	33 40	15 83	4 47	10 88	64 58	49 00
Sudbury	8 83	2 02	0 94	1 69	13 48	35 94
Thunder Bay	9 10	1 07	0 48	0 61	11 26	30 96
Timiskaming	9 07	2 00	0 99	1 28	13 34	58 60
Victoria	23 80	8 98	2 52	7 73	43 03	39 88
Waterloo	48 12	24 75	6 12	14 00	92 99	54 55
Welland	50 69	24 18	6 18	11 65	92 70	51 44
Wellington	37 64	20 28	4 37	13 60	75 89	47 70
Wentworth	71 79	28 53	6 55	13 87	120 74	61 85
York	70 06	26 01	4 97	14 20	115 24	55 08
The Province:						
1913	31 42	13 86	3 60	9 54	58 42	46 34
1912	30 47	13 46	3 46	9 07	56 46	44 80
1907	27 65	11 67	2 99	7 77	50 08	38 75
1902	25 49	10 00	2 62	5 93	44 04	32 43
1897	23 72	8 82	2 20	4 01	38 75	27 31
1892	27 19	8 64	2 25	5 19	43 27	30 38
1887	29 22	8 47	2 26	4 79	43 74	30 46
1882	32 23	6 76	1 89	4 10	44 98	24 52

CHEESE FACTORIES.

TABLE XXIV.—Showing by Counties of Ontario the number of cheese factories in operation, the quantity and value of cheese and butter made, and the value of cream, casein and milk sold in 1913, together with comparative figures for the Province for 1909–1913.

Counties and Districts.	Cheese factories.				Butter plants at Cheese factories.			
	No. of factories.	Milk used for cheese.	Cheese made.	Value.	Number operated.	Butter made.	Value.	Value of milk, cream and casein sold.
		Lbs.	Lbs.	$		Lbs.	$	$
Brant	7	8,701,699	768,017	94,268	....	.....	.....	.....
Bruce	4	4,385,099	394,385	50,048	....	.....	.....	.....
Carleton	53	53,188,453	4,938,512	618,009	5	24,263	6,454	.....
Dufferin	2	978,792	91,436	11,851	....	.....	.....	.....
Dundas	64	83,518,593	7,616,854	929,609	21	79,652	20,874	41,276
Durham	1	1,054,281	99,979	13,150	....	.....	.....	.....
Elgin	17	27,193,840	2,448,235	310,030	2	85,834	22,848	14,413
Frontenac	63	75,662,464	6,965,437	870,052	12	51,105	13,213	3,220
Glengarry	70	61,758,606	5,769,392	722,408	4	29,800	7,662	.....
Grenville	43	52,939,721	4,821,764	607,317	6	48,941	12,671	26,600
Haldimand	3	3,708,139	340,232	43,838	....	.....	.....	.....
Hastings	81	99,165,288	9,090,539	1,143,584	....	.....	.....	.....
Huron	4	5,106,481	460,655	58,556	....	.....	.....	.....
Lambton	6	4,716,773	426,338	54,248	4	167,963	42,704	.....
Lanark	42	44,844,939	4,123,214	535,529	7	28,548	6,666	.....
Leeds	98	123,487,420	11,225,296	1,385,880	35	102,661	25,776	42,121
Lennox and Add.	32	62,003,981	5,765,090	717,228	5	21,405	5,379	.....
Lincoln	1	1,211,589	112,967	14,717	....	.....	.....	.....
Middlesex	23	38,988,544	3,484,589	442,668	1	25,027	7,573	.....
Norfolk	9	12,686,030	1,121,305	139,975	1	3,712	904	13,000
Northumberland	42	46,919,686	4,230,639	534,347	....	.....	.....	.....
Oxford	37	80,897,666	7,151,672	910,645	14	400,630	117,246	26,977
Perth	24	40,471,919	3,675,580	471,289	6	212,867	63,132	.....
Peterborough	35	28,642,126	2,577,273	329,692	9	154,232	40,796	314
Prescott	71	53,247,004	5,067,805	636,901	2	4,681	1,284	156
Prince Edward	23	44,365,891	4,077,256	517,892	7	46,917	11,573	.....
Renfrew	18	16,823,629	1,604,273	208,785	2	4,523	999	.....
Russell	63	51,656,901	4,927,510	608,796	4	19,612	4,765	1,737
Stormont	51	66,100,926	6,017,028	729,053	4	20,103	5,704	2,843
Victoria	9	7,942,972	727,383	93,287	1	2,955	842	.....
Waterloo	1	1,210,811	108,104	14,226	....	.....	.....	.....
Welland	1	2,073,600	192,000	24,461	....	.....	.....	.....
Wellington	3	3,026,144	265,167	34,017	2	26,863	7,151	.....
Wentworth	1	1,210,000	110,000	14,300	....	.....	.....	.....
The Province:								
1913	1,002	1,209,890,007	110,795,926	13,890,656	154	*1,562,294	426,216	172,657
1912	1,055	1,405,921,858	129,653,063	16,574,573	144	1,765,950	505,532	132,731
1911	1,077	1,369,856,680	127,123,016	15,491,406	157	1,963,768	491,448	164,412
1910	1,102	1,451,244,620	135,521,390	14,491,410	....	.....	.....	.....
1909	1,177	.....	125,611,359	14,193,918	....	.....	.....	.....

*Including 359,729 lbs. whey butter, value $89,702.

Note.—The statistics in this and following table have been compiled by this Bureau from returns made by the staff of instructors under the direction of the Dairy Branch of the Ontario Department of Agriculture.

CREAMERIES.

TABLE XXV. Showing by counties of Ontario the number of Creameries in operation, the quantity and value of butter made, the value of cream, casein and milk sold in 1913, together with comparative figures for the Province for 1909-1913.

Counties and Districts.	Creameries.			
	No. of Creameries.	Lbs. of Butter.	Value of Butter.	Value of milk, cream and casein sold.
		Lbs.	$	$
Brant	3	736,000	197,420	.....
Bruce	10	1,287,651	319,242	.....
Carleton	3	363,441	108,297	.....
Dufferin	1	124,700	29,928	.....
Dundas	2	.....	.....	14,397
Durham	2	111,101	27,670	.....
Elgin	5	478,938	126,117	.....
Essex	4	238,134	58,518	.....
Frontenac	2	130,712	37,374	21,479
Glengarry	1	149,522	32,315	.....
Grenville	2	.....	.....	18,106
Grey	7	568,955	120,138	.....
Haldimand	8	1,256,380	332,101	.....
Haliburton	1	28,443	6,924	.....
Halton	2	218,322	54,581	900
Hastings	1	1,874	543	1,092
Huron	9	1,812,783	424,853	.....
Kent	7	615,772	168,960	.....
Lambton	6	792,300	198,808	.....
Lanark	1	7,788	2,336	.....
Leeds	1	.....	.....	20,402
Lincoln	3	429,000	110,300	.....
Middlesex	9	1,863,777	490,987	.....
Norfolk	6	578,309	144,736	.....
Northumberland	1	168,330	43,234	.....
Ontario	6	681,797	179,566	.....
Oxford	6	750,335	206,009	182,880
Peel	1	48,000	11,040	.....
Perth	5	491,697	129,405	.....
Peterborough	2	180,517	51,206	6,239
Prescott	1	.....	.....	21,681
Prince Edward	1	73,994	19,500	.....
Renfrew	3	348,030	90,132	.....
Simcoe	2	98,837	24,477	.....
Victoria	7	738,827	190,841	.....
Waterloo	6	832,550	215,476	.....
Welland	2	156,194	42,232	.....
Wellington	4	1,305,484	345,267	3,461
Wentworth	3	62,461	16,412	.....
York	9	2,898,600	761,490	.....
The Province.				
1913	155	20,629,555	5,318,435	290,637
1912	136	15,835,801	4,451,339	167,277
1911	120	13,738,203	3,268,303	.....
1910	121	12,893,650	3,016,135	.....
1909	97	9,015,206	2,175,955	.....

PART II.—CHATTEL MORTGAGES.

Table showing by County Municipalities of Ontario the total number and amount of Chattel Mortgages on record and undischarged on December 31st, 1913, against (1) all occupations; (2) farmers; together with totals for the Province for the past five years.

Counties and Districts.	Chattel mortgages against all occupations.				Chattel mortgages against farmers.			
	To secure existing debt.		For future indorsation.		To secure existing debt.		For future indorsation.	
	No.	Amount.	No.	Amount.	No.	Amount.	No	Amount
		$		$		$		$
Algoma	177	*4,941,395	....	.....	94	21,847	....	.....
Brant	181	†1,196,588	....	.....	58	42,958	....	.....
Bruce	265	148,744	4	591	176	61,308	4	591
Carleton	228	282,174	4	1,643	45	28,714	1	300
Dufferin	67	71,984	....	.....	35	46,399	....	.....
Elgin	259	302,148	1	100,000	125	107,232	....	.....
Essex	284	151,582	....	.....	175	64,967	....	.....
Frontenac	253	245,117	....	.....	184	57,385	....	.....
Grey	431	259,339	1	100	217	107,115	1	100
Haldimand	86	94,101	....	.....	55	22,738	....	.....
Haliburton	54	14,866	....	.....	40	6,184	....	.....
Halton	55	59,228	....	.....	25	18,238	....	.....
Hastings	454	176,878	1	800	308	86,915	....	.....
Huron	181	190,640	....	.....	89	58,887	....	.....
Kenora	52	191,251	2	(a) 3,024,741	10	5,673	....	.....
Kent	481	285,561	....	.....	412	125,281	....	.....
Lambton	340	270,006	....	.....	149	64,336	....	.....
Lanark	107	108,255	....	.....	51	35,959	....	.....
Leeds and Grenville	234	210,146	....	.....	102	52,414	....	.....
Lennox and Addington	147	76,088	1	400	74	42,044	1	400
Lincoln	101	292,197	....	.....	21	8,690	....	.....
Manitoulin	104	27,573	....	.....	81	16,810	....	.....
Middlesex	241	‡1,863,492	1	10,000	89	68,419	....	.....
Muskoka	145	80,419	1	2,500	77	20,436	....	.....
Nipissing	323	¶3,328,424	1	10,000	122	34,756	....	.....
Norfolk	197	97,814	....	.....	147	50,737	....	.....
Northumberland & Dur	331	212,876	....	.....	165	102,650	....	.....
Ontario	177	113,515	2	40,000	97	40,088	....	.....
Oxford	180	168,609	....	.....	93	72,513	....	.....
Parry Sound	170	181,248	....	.....	43	22,771	....	.....
Peel	46	28,935	....	.....	29	13,710	....	.....
Perth	149	170,518	2	(b) 775,000	58	51,872	....	.....
Peterborough	164	876,207	3	1,203	87	37,283	1	500
Prescott and Russell	161	108,271	....	.....	103	59,474	....	.....
Prince Edward	96	76,715	....	.....	73	52,082	....	.....
Rainy River	77	99,058	....	.....	31	9,908	....	.....
Renfrew	163	110,858	....	.....	100	66,171	....	.....
Simcoe	423	226,342	....	.....	300	131,412	....	.....
Stormont, Dun. & Glen.	213	202,534	14	4,991	135	74,797	5	1,617
Sudbury	199	§4,684,165	1	200	89	28,387	1	200
Thunder Bay	82	493,966	....	.....	16	13,420	....	.....
Timiskaming	106	86,549	2	10,215	71	16,158	....	.....
Victoria	96	‖1,694,561	1	100	57	30,857	1	100
Waterloo	165	‡‡1,571,288	1	600	40	38,802	....	.....
Welland	163	136,663	....	.....	41	11,867	....	.....
Wellington	154	††1,126,240	....	.....	65	57,285	....	.....
Wentworth	401	442,250	2	(c) 4,500,000	56	29,636	....	.....
York	1,027	4,665,238	4	2,704	121	61,716	1	204
The Province;								
1913	10,190	32,442,616	49	8,485,788	4,831	2,279,301	16	4,012
1912	10,654	39,406,857	55	542,235	5,016	2,310,071	6	3,489
1911	11,261	40,698,959	74	1,492,161	5,482	2,624,057	14	7,860
1910	12,490	31,108,900	80	1,101,014	6,196	2,658,283	18	8,258
1909	13,696	27,591,578	83	1,822,231	6,816	2,730,119	29	12,394

* Including 7 companies for $4,823,498. † Including 5 companies for $1,021,141 ‡ Including 1 manufacturer for $1,002,800. ¶ Including 4 pulp companies for $3,003,365 § Including 1 Pacific Securities Co. for $3,500,000. and 1 lumberman, $1,503,468. ‖ Including 1 Telephone Co. for $1,000,000. ‡‡ Including 9 manufacturers for $1,426,834. †† Including 5 manufacturers for $1,002,104. (a) Including 2 lumber companies for $3,024,741. (b) Including 2 manufacturers for $775,000. (c) Including 1 gas company for $3,500,000 and 1 manufacturer for $1,000,000.

TWENTY-SIXTH ANNUAL REPORT

OF THE

Chief Inspector of Factories, Shops and Office Buildings

FOR THE

PROVINCE OF ONTARIO

1913

(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE)

PRINTED BY ORDER OF

THE LEGISLATIVE ASSEMBLY OF ONTARIO

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1914

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WILLIAM BRIGGS,
29-37 Richmond Street West,
TORONTO.

To the Honourable Col. Sir John Morison Gibson, K.C.M.G., etc., etc.,

Lieutenant-Governor of the Province of Ontario.

May it Please Your Honour:

I have the pleasure to present herewith for the consideration of Your Honour the Report of the Chief Inspector of Factories for 1913.

Respectfully submitted,

JAMES S. DUFF,

Minister of Agriculture.

Toronto, 1914.

OFFICIAL LIST, 1913

CHIEF INSPECTOR: JAMES T. BURKE, PARLIAMENT BUILDINGS.

INSPECTORS:

WILLIAM BRENNAGH, 26 Crown St., Port Arthur: Mr. Brennagh's district is north and west of Sudbury and Sault Ste. Marie.

H. A. CLARK, 432 Woodman Avenue, London: Mr. Clark's district is within the following railway lines: London, Lucan Crossing, Sarnia, Point Edward, Windsor, Port Stanley and St. Thomas.

A. W. HOLMES, Parliament Buildings, Toronto: Mr. Holme's district is Toronto, west of Parliament Street, Howard and Glen Road to city limits; north to city limits; south to King Street, Strachan Avenue, Wellington and Church Streets.

R. HUNGERFORD, Parliament Buildings, Toronto: North, including terminal of the T. N. O. Railway, Copper Cliff, Owen Sound, and south of Canada Atlantic Railway; East, C. P. R. main line to Kingston and Pembroke Railway, excluding Harrowsmith, Renfrew, Smith's Falls, and Arnprior; South, excluding Marlbank, Belleville, Port Hope, Port Perry, and Scarboro Junction, but includes both sides of King Street, west of Parliament to Church, Wellington, Strachan Avenue; King Street west, both sides and south, Swansea, New, West and North Toronto from city limits to Waterdown, St. Ann, Georgetown, Cataract Junction and Kenilworth.

THOMAS KEILTY, 25 Russell Avenue, Ottawa: Ottawa, C. P. R. main line north to North Bay (exclusive); Canada Atlantic Railway west to Scotia Junction (exclusive); west to Renfrew, Eganville, Arnprior, Carleton Junction, Westport and Brockville; south to River St. Lawrence; east to Quebec boundary.

S. J. MALLION, 74 St. Vincent St., Stratford: West to Pottersburg (exclusive), to Lucan Crossing, L. H. B. Railway and B. & G. Railway to Goderich and Kincardine; north including Southampton and Bruce Peninsula; east, not including stations on the C. P. R. and G. T. R. between Owen Sound, Georgetown and Hamilton, but excludes Shallow Lake; southern boundary shall not include stations of G. T. R. southern division, main line between Hamilton, Harrisburg, St. George, Paris, Woodstock, London, e.g., but includes Manitoulin Island.

H. J. TUTT, Parliament Buildings, Toronto: Toronto, east of and including both sides of Parliament Street; Howard Street, Glen Road, and water front; east, G. T. R. main line to Brockville (not inclusive); north from Whitby to Port Perry (inclusive); north from Cobourg to Harwood (inclusive); Trenton, north to Frankfort, Napanee, Kingston, and north to Marlbank and Harrowsmith; south, including Lake Ontario and Prince Edward County.

F. KELLOND, 157 Wellington St., S., Hamilton: G. T. R. Hamilton, main lines west to London (exclusive); east to Niagara Falls (inclusive), all south and east of London to Port Stanley line.

MISS CARLYLE, Parliament Buildings, Toronto: Toronto, including west side of Yonge Street, north to city limits; west to Goderich and Windsor, and all places south of Goderich, Stratford, Berlin, Mosborough and G. T. R. main line east, exclusive of Guelph, and stations between there and West Toronto, including Niagara Peninsula and all places south of Lake Erie.

MRS. BROWN-REDDICK, Parliament Buildings, Toronto: Toronto, east side of Yonge Street to the Province of Quebec boundary line; north, including Ottawa, Mattawa, North Bay, Sudbury, Owen Sound, Wiarton, Southampton, Teeswater and Kincardine; south, exclusive of Clinton, Seaforth, Stratford, Berlin, and includes stations between Guelph and West Toronto.

REPORT

OF THE

Chief Inspector of Factories, Shops and Office Buildings

FOR THE

PROVINCE OF ONTARIO

1913

To the Honorable the Minister of Agriculture:

SIR,—I have the honor to submit to you the Annual Report of the work of the Factory Inspection Department for the Province of Ontario, for the ten months (fiscal year) ending October 31st, 1913, and in doing so it is very gratifying to be able to state that the work accomplished and results have been most satisfactory.

The business aspect seems to warrant a marked revival in trade, although throughout the year manufacturers in some cases felt the shortage of available money.

The work of this Branch has been carried on with little change. The boundaries of districts remain unaltered, with perhaps the exception of that north and west of Sudbury and Sault Ste. Marie. This district has been assigned to Mr. Brennagh whose duties commenced June 1st. We have now ten district Inspectors, whose names together with boundaries of districts appear on page four.

In view of the immense amount of electric power used and the danger of accidents from that source, the department issued, through the courtesy of the National Electric Light Co. of New York, about 7,000 "Resuscitation Cards" which were sent out to the various industries where electric power is used, and instructions given to post in factory and workshop. These cards illustrate the way in which a person who has had an electric shock may be revived, and it is hoped and expected that much good will result.

Thirteen thousand copies of the newly revised Factories', Shops' and Office Buildings Act were also sent out.

Four thousand Annual Reports are sent to manufacturers.

In referring to irregularities in this report it should not be forgotten that these are the exception, not the rule, for there are many places where conditions are good, even excellent, and leave little to be desired.

A list of towns visited, with number of inspections in each is appended, together with accidents in detail in each district.

During the past ten months 410 cities, towns and villages were visited, and 7,348 inspections made, covering about 5,084 industries.

In these places employees number 209,195 (approximately).

Four thousand three hundred and eighty-nine recommendations were made dealing with the following subjects: sanitation, boiler inspection, child labor, fire escapes and other fire protection, guarding machinery and elevators, safety of electrical devices, exhaust systems, hours of labor, mode of wearing the hair and various other orders.

Advice has been received that many of these orders have been, or are being complied with. Reasons are sometimes given for not immediately complying with orders, such as contemplated moves, or reconstruction of buildings, and in these cases recommendations are not urged but allowed to stand pending re-organization.

About 130 special visits were made in connection with previous recommendations; the usual investigations of complaints, accidents, and explosions also took up a portion of the Inspectors' time.

The mileage covered by the Inspectors was 57,435; this is independent of livery and street car mileage.

Permits.

Exigencies of trade caused us to issue 146 regular, and forty-seven special bakeshop permits, which is a decrease in regular permits, but an increase in special bakeshop permits, nineteen of which were issued during the year 1912.

Prosecutions.

Owing to disregarded warnings and failure to comply with orders issued, it was necessary to resort to the courts, and 14 prosecutions were instituted; in each case conviction was recorded and fines imposed, as follows:

Walker & Sons, Walkerville, for violation of child labor law. Conviction. The parents of both children were fined for allowing their sons to work contrary to the provisions of the Act. Fine imposed $1.

Mrs. Griffin, London, for violation of the child labor law. Fine $1 and costs.

Five Chinamen, St. Thomas, Sam Wah, Lee Sing, Jim Lee, Charles Pang and Lou Poi, for non-compliance with the regulation regarding sleeping and eating apartments being separate from laundry. Each fined $2. Three of these were again prosecuted for continued violation and convicted.

Lee York and W. W. Pang, Amherstburg, for non-compliance with regulation regarding sleeping and eating rooms, fined respectively $5 and costs and $1 and costs.

Explosions.

Five boiler explosions and one gas were reported, with, in two cases, fatal results. These were investigated and causes were as given below:

In the saw mill of Manley Chew, Midland, explosion was due to overtaxing an old boiler. Two men were killed and others injured.

In the saw mill of James W. Arbuthnot, Northfield Station, explosion was caused by key having dropped out of stay bolts in dome. No one injured.

At the Riverdale & Rubber Co.'s plant, Toronto, a small gas boiler exploded, caused by excessive steam pressure. No one injured.

At the City Gas Co.'s plant, Oshawa, explosion was due to overtaxing an old boiler. Two men were killed.

In the sawmill of H. R. Lawson, Stewarton, boiler exploded but no one was injured.

A gas explosion took place in the Watson Manufacturing Co.'s plant at Ayr, with the result that three men were injured. A leak in the plant partly filled the gas house with fumes and a workman lit a match before all the gas had escaped.

Accidents.

During the past ten months 1,459 accidents were reported, 54 of which were fatal.

The figures are not altogether unexpected; industrial activity and consequent increased use of machinery means increased possibilities of accidents. Comparison of one year with another shows improvement in reporting, but does not warrant a conclusion as to actual increase in accidents. Some of the accidents reported were quite serious, but a large percentage were cuts, bruises and lacerations. Two were by drowning. Several slight accidents resulted in blood poisoning, which shows the importance of keeping antiseptic dressing at hand for first aid, and having even the slightest cut properly and immediately attended to.

It has not been necessary in connection with a large proportion to make formal inquiry, as a glance at the appended list will show that causes were quite beyond the control of the Inspectors.

Investigation of some of the more serious ones discloses the fact that it is not always through neglect of statutory obligations on the part of the employer that accidents occur. One man overbalanced and fell, supposedly pulling operating rope of elevator; gates were in good order. Another turned on gas under a boiler and went away for a while. then came back and lit it; the result was an explosion. Still another attempted to board a hoist after it had ascended some little distance. These are only a few of the cases which might be cited, but are enough to show there are many other causes of accidents quite apart from the use of machinery.

Fatal accidents are as follows:

Campbell Foster, an employee of the Canadian Northern Coal and Ore Dock Co., Port Arthur, was killed by a fall from overhead trestle.

Stephen Linoski, employed by the Canadian Northern Coal and Ore Dock Co., Port Arthur, while oiling shafting was caught in gears of elevator machinery. Was under the impression he had thrown out the clutch, and was oiling when operator started machine.

Mike Oshanski, employed by the Canadian Stewart Co., Fort William, was killed by the breaking and falling of forms. K. McLeod, another employee was also killed in the same manner.

Joseph Chea, an employee of the Western Dry Dock and Ship Building Co., Port Arthur, fell from staging on steam boat and was drowned.

H. Alford, also an employee of the Western Dry Dock and Ship Building Co., Port Arthur, missed footing and fell from staging, fracturing skull.

Oscar Denzil Lowes, employed by the Canadian Roofing Co., Windsor, fell into a vat of asphaltum and was so badly burned that death resulted.

Edward Whiteman, an employee of the Canadian Salt Co., Sandwich, was killed by a roof falling on him. Was watching storm which blew roof in.

Arthur Johnson, employed by Green & Swift, London, was scalded by steam, causing death.

John Weir, employed by Heard & Co., St. Thomas, while oiling counter shaft above saw, fell on saw.

Stiff Lekot, an employee of the London & Petrolea Barrel Co., London, stepped against a circular saw and was thrown between top and bottom saw severing his body.

Daniel Hewitt, employed by the McCormick Manfg. Co., London, while attempting to get out of elevator before it stopped was caught between bottom of car and floor.

Maurice Henry Cox, employed by Miller Limited, London, cut hand on saw; died from shock.

George Jones, employed by the Canadian Fairbanks-Morse Co., Toronto, fractured skull; supposed to have fallen from ladder.

S. Corenfeld, an employee of the Cooper Cap Co., Toronto, fell down elevator shaft.

Edward Carson, employed by Gage & Co., was moving millboard when pile near him fell breaking his leg; result fatal.

Emil Prelippe, employed by the Diamond Flint Glass Co., Hamilton, was found dead in cellar with electric light bulb in one hand and fire shovel in the other.

Frank Duckling, employed by the Dominion Canners, Waterford, was fatally burned. Gasoline tank exploded.

E. Peacock, employed by the Hamilton Bridge Works Co., Hamilton, was struck on the head by jib crane which fell.

H. Manoian, employed by the McKinnon Dash Co., St. Catharines while emptying and filling tumbling barrels was caught in shafting and had leg broken and skull fractured; also internal injuries.

Mathew Cousic, employed by the Massey-Harris Co., Brantford, was caught in a belt and wound around a line shaft.

Alex Holliday, an employee of the National Steel Car Co., Hamilton, was oiling cog wheels and had his arm torn out, head cut and lung lacerated; died later.

Michael Tymezyszym, employed by the Page Hersey Iron Tube & Lead Co., Welland, was adjusting a lamp in cluster fixture located over machine, and fell; he was found dead and is supposed to have been due to electricity, but a test did not show any leakage of current.

Walter Denski, an employee of the Steel Co. of Canada, Hamilton, was crushed about the hips so badly that death resulted. Was on track clearing it of ice when engine shunted jamming him against gang plank and car.

Alfred Peckson, an employee of the Waterous Engine Works, Brantford, fell from crane to floor; died from concussion of the brain.

Israel Kaufman, an employee of the Beverley Wood Specialty Co., Toronto, was killed by being jammed between hoist and floor; attempted to board elevator when it was away from floor.

Joe. Flemming, employed by the Canada Flax Fibre Co., Arthur, was caught in pulley and killed.

James Randall, an employee of the Canada Foundry Co., Davenport, died of the result of burns from hot soot.

Robert Leslie, employed by the Canadian Allis-Chalmers, Ltd., Davenport, died from effects of burns and shock; was tightening plug in oil tank which came off allowing oil to come in contact with furnace.

H. Saville, also an employee of the Canadian Allis-Chalmers, Ltd., Davenport, died from effects of burns.

Fred Smith, employed by the Canadian General Electric Co., Peterborough, had ribs and leg broken; died from result. Cable of crane broke and hook fell.

Fred Wands, an employee of Clark & Clark, Toronto, was caught in elevator and killed.

Charles Randall, employed by the Dodge Manf. Co., Toronto, had his leg badly crushed by cross carrier beam which broke; died from results.

S. Yacterweir, an employee of the Dodge Manf. Co., Toronto, was killed by the bursting of an emery wheel. His skull was fractured.

John Healy, employed by the Doric Portland Cement Co., Owen Sound, was caught on a countershaft and so badly injured that he died soon after released.

G. Jotilia, employed by the Grand Trunk R'y, Toronto, was struck by engine while walking along the track.

Joseph Rogolo, employed by the Ideal Bedding Co., Toronto, was trying to put a belt on line shaft pulley with a stick and became entangled in belt and was drawn into machinery and whirled around shaft.

R. Henty, employed by the Ontario & Manitoba Flour Mills, Sudbury, stepped on the end of loose plank and fell to bottom of bin.

Harry Hunt, employed by the Polson Iron Works, Toronto, was working on the third floor of a partly constructed building, and fell through opening in floor, fracturing his skull.

Abraham Block, an employee of the Port Credit Brick Co., Port Credit, was so badly injured by being caught in sprocket wheel that he died.

Christo Nicholas, employed by Simpson & Sons, Ltd., Toronto, was found dead in cotton room. Particulars unknown.

John Beduarski, an employee of the Toronto Structural Steel Co., Toronto, was killed by girder falling. His back was broken.

A Laquir, an employee of the J. R. Booth, Ottawa, had his arm drawn into rolls and his head came against rolls of paper which was being run off calendar stock.

Ernest de Grandpre, also an employee of J. R. Booth, was whirled around a shaft breaking his legs; amputation was necessary and death resulted. His jacket caught in the shaft.

Romeo Champagne, an employee of J. R. Booth, Ottawa, was drowned through coffer dam breaking and filling fore bay with water.

Ernest Pacquett, employed by Edward & Co., Rockland, was struck in the stomach by a board from saw edger and was killed.

Clifford Hudson, employed by the Ottawa Sanitary Laundry, Ottawa, was overcome by fumes while cleaning box containing gasoline, coal oil and water, and fell in.

Danial Prezko, employed by the Riordan Pulp & Paper Co., Hawkesubry, got foot between gears of cross conveyor necessitating amputation; died from shock and loss of blood.

George Hibbert, an employee of the Algoma Steel Co., Sault Ste. Marie, fell in front of engine and cars passed over him crushing legs off.

Giovanni Caeran, an employee of the Algoma Steel Co., Sault Ste. Marie, was working in tank and died from the effects of sulphuric acid.

W. H. Weber, employed by the Electric Meter & Stamping Co., New Hamberg, was killed by fall from gangway.

William J. Becker, employed by the Kuntz Brewing Co., Waterloo, received an electric shock, which caused death.

CHARLES WATSON, an employee of Cowan & Britton, Gananoque, slipped into vat of hot water scalding himself so badly that he died.

GEORGE SLATER, employed by the Dunlop Tire & Rubber Co., Toronto, was struck by handle of bailing machine and skull fractured.

THOMAS FAGEN, employee of Lever Bros., Toronto, fell under hot water drain and was badly scalded. Died from effects.

MACHINES AT AND CAUSES THROUGH WHICH ACCIDENTS OCCURRED.

By	axle bed rounder	1	
"	air hoist	1	
"	belts and pulleys	15	
"	beamer	1	
"	boring machine	1	
"	box board squeezer	1	
"	bailing machine	1	
"	blood poisoning	19	
"	burns, molten metal, etc.	157	
"	burns, gas and gasoline	19	
"	brake machine	2	
"	bull dozer	4	
"	buffing wheels	1	
"	burring machine	1	
"	cog wheels	1	
"	cutting machine	2	
"	chains, cables and hooks	13	
"	cinder mill	1	
"	crane	14	
"	corner cutter	3	
"	corner stitcher	1	
"	corner staying machine	1	
"	callendars	4	
"	conveyors	2	
"	can body machines	1	
"	cocoanut machines	1	
"	clutch	1	
"	carding machine	1	
"	clamping machine	1	
"	charging machine	1	
"	derrick	1	
"	drills	6	
"	dough mixer	1	
	drowned	2	
"	drawing machine	1	
"	edgers	1	
"	breaking engine cross head	3	
"	struck by engine	2	
"	ending machine	1	
"	emery wheels	20	
"	elevators	26	
"	eccentric slipper	1	
"	electricity	14	
"	explosion of caps	1	
"	explosion of boilers	4	
"	explosion of gasoline or gas	4	
"	falling substances	202	
"	facing machine	1	
"	falls	116	
"	fly wheels	1	
"	fall of scaffolding	1	
"	flying missles or particles	48	
"	golding machine	1	
"	gears	14	
"	gear cutter	1	
"	gum roller	2	
By	grinding machine	2	
"	grinding wheels	4	
"	hand tools	17	
"	heading machine	1	
"	hammers	29	
"	hook bending machine	1	
"	being jammed between objects	103	
"	jointers	8	
"	knives	8	
"	lap machine	1	
"	lathes	11	
"	looms	4	
"	monitor	1	
"	moulding machines	4	
"	mortiser	1	
"	ore bucket	1	
"	overcome by gas	1	
"	polishing wheels	1	
"	picker	1	
"	presses	64	
"	paper cutter	1	
"	planers	17	
"	paper machine	1	
"	punching machine	1	
"	reamer	2	
"	rim stretcher	1	
"	rivetter	5	
"	rolls	3	
"	rail wrench	1	
"	sewing machine	1	
"	shredding machine	1	
"	saws	64	
"	scalds	22	
"	shapers	9	
"	spinning mule	2	
"	sander	3	
"	saw sharpener	1	
"	staying machine	3	
"	spoke machine	2	
"	seaming machine	1	
"	shears	20	
"	set screws	6	
"	shafting	12	
"	slubbing frame	1	
"	shuttle	1	
"	stripper	1	
"	sills falling	3	
"	sticker	1	
"	sprockets	2	
"	saw dust carrier	1	
"	sulphuric acid fumes	1	
"	splitting machine	1	
"	setting machine	1	
"	straightening machine	1	
"	slotter	1	
"	tripper	1	

By tenoner	3	By wrapping machine	1
" tin plate rollers	1	" wall paper stick box	1
" threading machine	1	" wire straightner	1
" twisting machine	1	Other causes, such as ragged edges of materials, glass, truck wheels running over feet, etc., etc.	223
" tire setter	1		
" tin cutting machine	1		
" unspecified causes	21		

Complaints.

The number of complaints diminished during the past year, but such as were received were carefully investigated, and in some cases there was no justification for the statements alleging violation of the law. Others were not specific, and bore no signature, thus making it impossible to communicate with the complainant. Others related to the safety of buildings entirely outside the jurisdiction of the department, but in the absence of a municipal building by-law, we felt that morally we would be responsible, and should make the inspection. Parties who make complaints would assist us very much if they would first consult the Act to see if same came under our supervision, as when such are outside of our jurisdiction we could not hope to prosecute the offending parties. Complaints, however, are always welcome, and we are glad to receive any assistance along this line.

Bake-shops.

The inspection of bake-shops received the earnest attention of the Inspectors, and results in so far as they relate to the factory bake-shop are quite satisfactory. The best advertisement that can be laid before the consuming public by bakers is to be able to invite it to enter their shops either through the front or rear door to see how the obligations morally imposed on them by public sentiment are being adhered to.

There is no doubt but that the many papers and talks delivered at the recent Toronto Convention, and the closer alliance in the trade will have a most salutary influence.

Special efforts have been made to keep the small bake-shops up to the requirements of the Act; some of the defects reported are unsuitable premises, lack of whitewashing, improper storage of flour, etc. The fly pest in summer is also a common source of complaint, and while the larger places have reached a high standard of cleanliness, these smaller shops leave much to be desired.

I desire through this agency to thank the officers and members of the Bakers' Association for their kind invitation, which made it possible for me to be present for a short time at their meetings, and hear the instructive papers and addresses which were delivered for the purpose of improving the trade.

Sanitary Conveniences.

In the matter of sanitary accommodation, although much progress has been made, reports indicate that there are still places where conditions are far from what is intended by the Act, and some are reported as being absolutely unfit for use. Unsuitability of location in buildings and inadequate lighting are other defects noted.

A decided improvement towards cleanliness could also be made both in closet and urinal floors by providing a marble slab at the time of installation. Provision should also be made for plenty of sunlight, for this will do much towards keeping closets in a sanitary condition; and where this exists there is less probability of carelessness on the part of the employee. Then a general closet or urinal system should never be located in a basement, but should be put where natural ventilation can be obtained; in fact, they should always be open to the outer atmosphere either by direct communication or by air shafts.

The amended sections of the revised Act require one closet for every twenty-five persons, both males and females, with separate approaches, and also a sign indicating for which sex closets have been allotted.

Cleanliness.

Although a better standard of sanitation now obtains, neglect of general cleanliness again figures in the Inspectors' reports, and the numerous recommendations made to "clean up" suggest a need for further improvement. These recommendations refer chiefly to cleaning halls, stairways and workrooms, whitewashing walls and ceilings and removing accumulations of refuse, etc., and frequent visits are necessary to places where these conditions exist in order to maintain a proper degree of cleanliness. While some occupiers take a liberal view of their duties in this respect, others are less amenable and require constant surveillance. Cases of extreme unsanitary conditions are sometimes referred to the local authorities.

Washing Facilities.

Under the present Act manufacturers are required to provide a supply of clean towels and soap, washrooms, and in foundries, shower baths for their employees, and it is intended that the towels supplied shall be of the individual kind, that is a set of towels for each employee, and that these shall be kept in a sanitary condition by having them washed in a solution of hot water and soda. These requirements are not expensive, and are most conducive to health and comfort. When employees are obliged to leave their work dirty because of no modern washroom facilities, the impression is created that such an industry is not in the up-to-date list, neither has it the effect of creating self-respect in the worker.

There are places of course where this accommodation may be sufficient, but all employees do not always avail themselves of it.

Lunch Rooms.

It is also required that where employees bring their lunch, proper lunch rooms be provided to enable them to partake of it outside the workroom. In many cases these are provided, but it has often occurred to me that a restaurant might be successfully established in connection with a factory, or at all events an effort made to induce a capable man to establish such near the industry.

Mode of Wearing the Hair.

Breaches of the law are still evident in this respect although not very general. Insubordination on the part of the employee may be responsible for the violation, but it should not be beyond the control of the employer to remedy, and instructions have been given by the Inspectors to see that there is no further infringement of this section of the Act.

Seats for Females in Stores.

Violations of this section of the Act are not numerous. A few cases of neglect to provide seats behind counters are reported, but the majority of mercantile establishments have them.

Chinese Laundries.

Some little difficulty has been experienced in having sleeping and eating apartments provided in Chinese laundries separate from laundry room, and proceedings were taken against several Chinamen for violation of the law in this respect. In two or three cases there was wilful and continued infringement and a second prosecution followed; this it is hoped will act as a deterrent on others who fail to comply with orders issued. Notwithstanding these cases there is a very marked improvement in many of the Chinese laundries.

Hours.

There appears to be little violation of the law in regard to hours of labor, the 60 hour per week regulation being very generally observed. Two or three cases only are reported where any have worked in excess of this, and in those cases the hours stated were 61 and 62. In a few other cases it was found that the full time, one hour, had not been allowed for the noonday meal. These matters were, however, taken up with the employers, and advice received that the regulation time would be adhered to in future.

Child Labor.

Reports show that there is comparatively little child labor in this Province, in any case nothing approaching a problem. Employers seem to be living up to their duty in this respect, and the law prohibiting the employment of children is pretty generally observed.

In some of the districts a few children under fourteen years of age were found employed. These, however, were immediately discharged, and employers warned not to employ children under the legal age under any circumstances. Orders were also issued, where there was any doubt of a child's age, to procure and forward to the department a certificate of birth; and in nearly every case the certificates were satisfactory, showing the age of the child given to be correct. One case of falsified certificate presented itself this year. Just what stress of circumstances causes parents to commit so serious an act is hard to say, but fortunately these occurrences are rare.

Boiler Explosions.

Some very disastrous explosions took place during the year attended by loss of life in two or three cases, and great damage to property in all.

The direct cause of an explosion is not always easy to determine, but is frequently due to lack of sufficient strength to sustain the working pressure; this may arise perhaps, from a defective design or the use of inferior material, or from a lack of proper care, and failure to make needed repairs; or again, it may be that a boiler is subjected to excessive pressure; often too, a boiler has been in service a long time and is simply over worked. This was apparently the cause

of some of the explosions that occurred this year, the finding of the jury in the case of the City Gas Co's. plant at Oshawa, being that the boiler was old, unsafe, and unfit for the pressure and the work for which it was used.

In connection with this subject I might mention the explosion of a digester which took place about a year ago at Grand Mere, Que., where tremendous damage was done to the plant and two or three lives were lost. After investigation, the conclusion was reached that the explosion was due to a hidden crack in the strap which failed first, and starting from the inner surface gradually worked its way towards the exterior, and because it was between the strap and the sheet it was difficult to find. It was then shown that the entire lining of a digester should, at regular intervals, be removed and a thorough internal examination of the shell made. This may be a costly matter, but compared with the possible loss in the event of an explosion, cost should not be considered.

No fires accompanied the explosions reported, otherwise there might have been more disastrous results to property and greater loss of life.

Safety.

All matters affecting the safety of persons employed in factories have been given due attention. Particular care has been given to protecting the employee against accidents. Compliance with orders issued for guarding machinery and dangerous places, proper ground wiring and insulating of electrical apparatus, etc., has been for the most part prompt, and there is a general disposition on the part of the employers to support the Inspectors in their efforts. Some may be a little dilatory about complying with the recommendations, but a reminder from the department usually brings the desired result.

Orders have frequently to be issued to see that the men use the guards provided, because these are sometimes removed, and employers are a little lax about insisting on their use, feeling perhaps that they have done their part in having them installed.

Plans to be Submitted to Department.

Section 14 of the Act requires that: "Before erecting any building or altering any existing building which it is intended thereafter to use as a factory the owner shall submit the plans of such building or of the proposed alterations to the Inspector, and the Inspector shall examine the same, and if he finds that the plans provide for the fulfilment of the requirements of the Act as to the construction of factories he shall certify his approval thereon, and the owner shall not proceed with the erection or alteration of such building without such approval."

This section will be of great assistance to this department when the requirement becomes generally observed. Although it in no way conflicts with the Municipal Act empowering Councils to pass building by-laws, yet these local by-laws seem to be framed in certain cases in such a way that they have caused more or less overlapping of our duties. In some cases plans had been approved by local officials allowing a manufacturer to cover every inch of ground with his building, and making no provision for the extra safeguarding of elevator shafts, or adequate fire protection, lavatory accommodation, opening of employees' doors outwardly, etc., and it might be well to consider taking away from municipalities such powers as now permit them to object to fire protection, etc., that is imperative for safeguarding life and limb of employees in factories, shops, and office buildings.

Accident Prevention.

Education is a great factor in accident prevention, and it is evident that in order to keep down accidents there must be a sound organization that will bring about education among officials and their employees. Causes of accidents may be attributed to neglect on the part of employers to provide and maintain effective safeguards for dangerous machinery in places where such exists, but there is also the danger that an employee may lack education in using the guards when provided, and he may also become careless. The burden of safety very often largely rests with the works superintendent and foreman, and their attitude towards safety will be reflected in the men in just the same manner as in production; so that where the superintendent of a plant exercises due precaution in keeping down accidents, the foreman will follow by directing that each employee shall not only look out for his own safety, but that of others, and it should not be difficult to organize and insist on the observance of well worked out rules for safety, keeping the necessity for co-operation before the employees, as well as the use of the most effective guards.

The "Vulcan" gives particulars of a crane accident of an unusual character. It appears that during the working of the crane the bearings became loose, and one of the rollers flew out striking the workman on the back of the head, with fatal results. At the inquest it was explained that it was a most unusual occurrence for the bearings to become loose. The displacement of the bearings must have been caused either by rollers becoming twisted or by some grit which had got in and set up friction which lifted up the ring holding the rollers in position. It would be possible, however, to prevent a recurrence of such an accident by fixing a guard on top of the ring.

Safety First.

The following rules copied from the National Steel Car Co. Ltd., will no doubt help to keep down accidents.

Notice.

Never try to shift a moving belt by hand.

Never go between or reach between large, fast moving belts.

It is your duty as well as your protection to report unsafe conditions to your foreman or the master mechanic.

A guard is placed solely on a machine for your protection. Don't operate the machine without the guard in place.

Stop machine before cleaning, oiling, wiping, or repairing it. Projecting belts and set screws may catch clothing and result in serious injury.

Don't try to operate a machine you don't understand.

Be sure to replace all guards when through repairing a machine. Think about the other fellow.

If you know of some machine not properly guarded, don't wait until some one gets hurt and say, "I told you so!" Tell the man in the shop before the accident happens and ask him to supply a proper guard.

Don't work with tools, machines or appliances which you know to be improper or defective, without calling their condition to the attention of the foreman or other proper person.

Don't swing sledge or hammer that you know is working loose on the handle, thinking it won't come off until the "next time." You may not be hurt, but what about the other fellow.

Never strike tempered steel with hammer or other metal object. Many eyes are injured or destroyed from this every year.

Don't leave tools, materials or rubbish in aisles or walk ways.

Remove or bend nails down before throwing boards aside. Never throw boards or material aside with nails extending upwards.

Avoid walking on railway tracks, and before crossing ANY TRACK, "stop, look and listen."

Avoid jumping on any moving cars or engines; your work does not require it and you cannot afford to take the risk.

Don't fool with electricity. It is dangerous.

Don't wear loose, baggy clothing where it is liable to be caught in machinery.

Don't expect your helper to be as good a mechanic as you are. He is not, or he wouldn't be a helper. A little explanation as to the way the work is to be done may save injury to one or both of you.

It is easier to do a thing right than to explain why you did it wrong.

You are responsible for the safety of others as well as yourself.

Safety should be the first consideration of every employee.

Do things the way you are told, then if trouble comes, it is up to the Boss—you are paid to comply with rules. Have you any right not to comply? To be careless, thoughtless, or reckless means injury sooner or later to yourself or others.

Accidents from Electricity.

Fatal injuries from ineffective insulation have not been infrequent, which has established the fact that in some cases it is not so much the strength of current as it is the varying powers of resistance of the individual that determines the fatal issue. Moisture on the skin, perspiration and impregnation of the skin with salt greatly diminish resistance. It is also understood that the condition of the nervous system when weakened by disease as well as the point of contact with electrodes frequently causes only suspended animation, and in order to meet such a contingency, this department obtained permission from the National Electric Light Association of New York, to reproduce the following instructions for the resuscitation from electric shock:

Resuscitation From Electric Shock.

Follow these instructions even if victim appears dead.

I. *Immediately Break the Circuit.*

With a single quick motion free the victim from the current. Use any *dry non-conductor* (clothing, rope, board) to move either the victim or the wire. Beware of using metal or any moist material. While freeing the victim from the live conductor have every effort also made to shut off the current quickly.

II. *Instantly Attend to the Victim's Breathing.*

1. As soon as the victim is clear of the conductor, rapidly feel with your finger in his mouth and throat and remove any foreign body (tobacco, false teeth, etc.). Then *begin artificial respiration at once.* Do not stop to loosen the victim's clothing now; *every moment of delay is serious.* Proceed as follows:

(*a*) Lay the subject on his belly, with arms extended as straight forward as possible, and with face to one side, so that nose and mouth are free for breathing (see Fig. 1.) Let an assistant draw forward the subject's tongue.

(*b*) Kneel straddling the subject's thighs and facing his head; rest the palms of your hands on the loins (on the muscles of the small of the back), with fingers spread over the lowest ribs, as in Fig. 1.

(*c*) With arms held straight, swing forward slowly so that the weight of your body is gradually, but *not violently,* brought to bear upon the subject (see Fig. 2). This act should take from two to three seconds.

(*d*) Then immediately swing backward so as to remove the pressure, thus returning to the position shown in Fig. 1.

(*e*) Repeat deliberately twelve to fifteen times a minute the swinging forward and back—a complete respiration in four or five seconds.

(*f*) As soon as this artificial respiration has been started, and while it is being continued, an assistant should loosen any tight clothing about the subject's neck, chest, or waist.

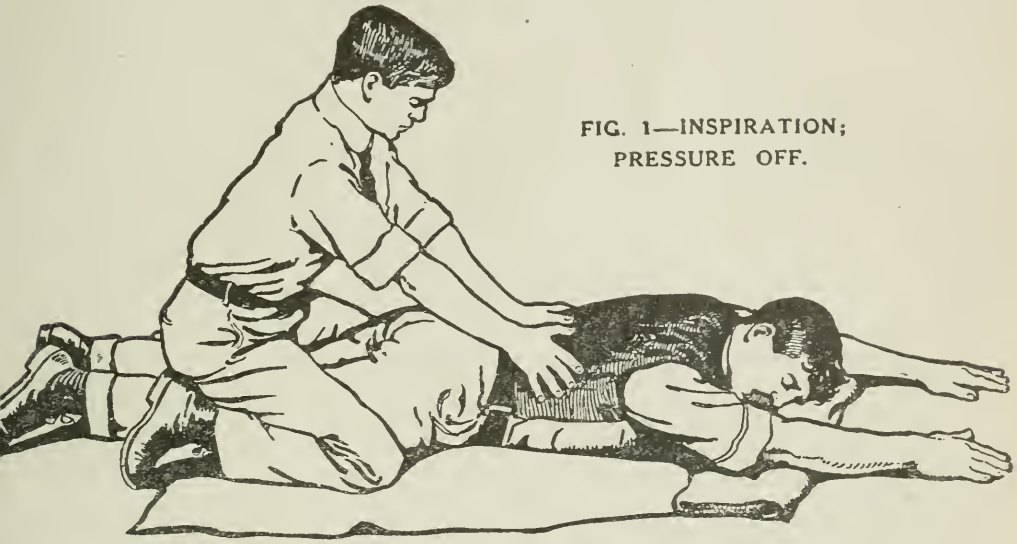

FIG. 1—INSPIRATION; PRESSURE OFF.

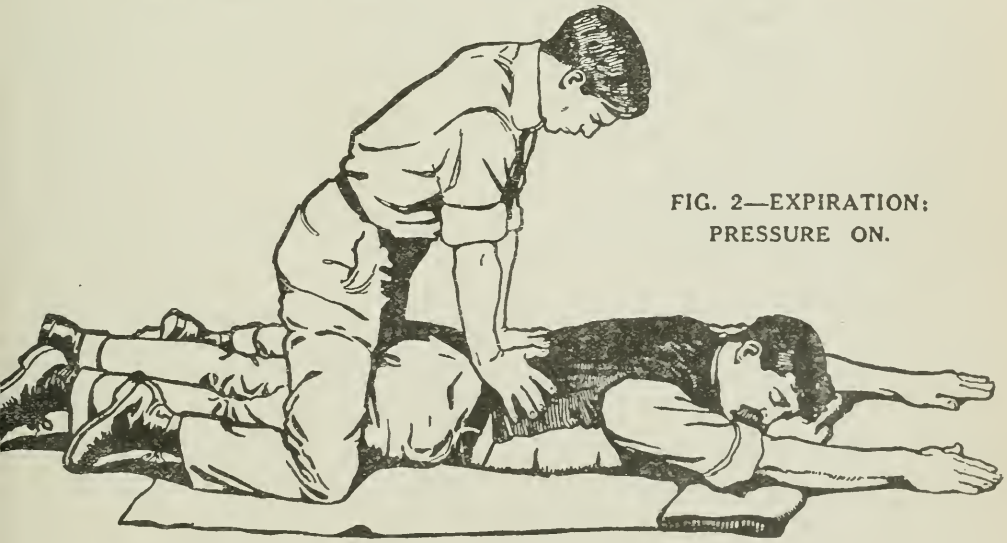

FIG. 2—EXPIRATION; PRESSURE ON.

2. Continue the artificial respiration (if necessary, two hours or longer), *without interruption,* until natural breathing is restored, or until a physician arrives. If natural breathing stops after being restored, use artificial repiration again.

3. *Do not give any liquid by mouth until the subject is fully conscious.*

4. Give the subject fresh air, but keep him warm.

III. *Send for Nearest Doctor as Soon as Accident is Discovered.*

The following Doctors are recommended:

Name	*Address*	*Telephone Call.*
.....	. . . .	
.....	. . . .	
.....	. . . .	

Treatment for Electric Shock.

An accidental electric shock usually does not kill at once, but may only stun the victim and for a while stop his breathing.

The shock is not likely to be immediately fatal, because:

(*a*) The conductors may make only a brief and imperfect contact with the body.

(*b*) The skin, unless it is wet, offers high resistance to the current.

Hope of restoring the victim lies in prompt and continued use of artificial respiration. The reasons for this statement are:

(*a*) The body continuously depends on an exchange of air, as shown by the fact that we must breathe in and out about fifteen times a minute.

(*b*) If the body is not thus repeatedly supplied with air, suffocation occurs.

(*c*) Persons whose breathing has been stopped by electric shock have been reported restored after artificial respiration has been continued for approximately two hours.

The Schafer, or "prone-pressure" method of artificial respiration, slightly modified, is illustrated and described in the following resuscitation rules. The advantages of this method are:

(*a*) Easy performance; little muscular exertion is required.

(*b*) Larger ventilation for the lungs than by the supine method, that is, lying upon the back.

(*c*) Simplicity; the operator makes no complex motions and readily learns the method on first trial.

(*d*) No trouble from the tongue falling back into the air passage.

(*e*) No risk of injury to the liver or ribs if the method is executed with proper care.

Aid can be rendered best by one who has studied the rules and has learned them by practice on a volunteer subject.

First Care of Burns.

When natural respiration has been restored, burns, if serious, should be attended to until a doctor comes.

A raw or blistered surface should be protected from the air. If clothing sticks, do not peel it off—cut around it. The adherent cloth, or a dressing of

cotton or other soft material applied to the burned surface, should be saturated with picric acid (0.5 per cent.). If this is not at hand, use a solution of baking soda (one teaspoonful to a pint of water), or the wound may be coated with a paste of flour and water. Or it may be protected with a heavy oil, such as machine oil, transformer oil, vaseline, linseed, carron or olive oil. cover the dressing with cotton, gauze, lint, clean waste, clean handkerchiefs, or other soft cloth, held lightly in place by a bandage.

The same coverings should be lightly bandaged over a dry, charred burn, but without wetting the burned region or applying oil to it.

Do not open blisters.

Fire Escapes.

Under this heading comes one of the most important works of inspection and one of the most time consuming, occasioning frequent revisits of the Inspector after an order has been first given; plans are discussed and location settled upon and other details gone into, then a final visit before it is passed upon and a certificate issued.

A large number of fire escapes have been erected during the past year, and two or three are generally under construction in the various districts all the time. Some minor defects in existing fire escapes were noted and required looking into; passages also to exits have been found to be in some places blocked, and in others an insufficient number of exits.

The work of providing additional fire escape exits has received a great deal of our time and attention, as every little while fire disasters occur in factories, theatres, schools, etc., leaving in their train a deplorable loss of life. The Inspectors, however, are discharging their duties irrespective of some opposition from owners of such buildings as come within our jurisdiction, who point out they are in the close vicinity of the fire hall or they have a fire-proof building. Others again claim an outside fire escape defaces the appearance of their building, and that there is no possibility of a fire originating in their building, but the answer to such objections are that the law is mandatory, and that we do not recognize a fire-proof building as being reasonably safe with only one stairway exit, even if it has been erected in a fire-proof tower. The best authorities agree that no known industrial buildings are safe with only one tower stairway. There should at least be two exits to every building where employees are engaged on the upper floors, and we are taking no chances, as experience is a great teacher. It is obvious that suitable fire protection should be considered an imperative necessity, as our observations at the time of the big fire in Toronto demonstrated that no form of building construction available will stand up in face of a fire that penetrates or strikes from both sides. Ribbed or wire glass with metal sashes and frames have been found inadequate, but its defect, apart from imprisoning the employees, is that radiant heat passes through the wire glass almost as easily as it does through any other glass, and the only records which have contributed to the success of wire glass are due to the fact that nothing combustible was behind such glass; of course I do not mean that wire glass, etc., is not useful as a temporary fire stop, but it has its limitations, as demonstrated when subjected to a practical test.

Smoking in Factories.

Fires are often blamed on defective wiring, whereas if the facts were known the cause would be found to be due to a cigarette or match. Smoking in textile, clothing and wood-working factories should be prohibited.

Of course there are plants where employees could smoke with a certain degree of safety, if the privilege were not abused, but where such is granted employees are liable to become careless in throwing matches and cigarette ends into material that may start a fire, and it is more by good luck than good management that more fires do not occur through this agency.

Fire Prevention.

The best information obtainable shows that fire prevention has not had the desired effect of reducing fires in factories, and many warehouses and factories are now being built of fire-proof or slow burning material. Many of these buildings are also equipped with sprinkler systems, inside stand pipes and hose, and extinguishers; also barrels filled with water and a number of pails for emergency use. as well as supplies of sand where chemicals are used. The method of installing factory and warehouse windows made of metal sash and wire glass may have the approval of associations interested only in saving such buildings, but I certainly feel that with the present method of window construction an additional hazard has been created in as far as it relates to the employees, for the only outlet to such windows is a small swivel opening in the centre of each sash, usually not large enough to allow an employee to get through to one of the fireman's ladders, apprehending that the stairway exit has been cut off and fire escapes are congested. It is well known that the number of employees increase or decrease with the fluctuations of trade, so that we feel that employees are practically imprisoned in such buildings, as even with a sledge hammer placed at every window for the purpose of breaking them out, and a muscular person to operate same, the employees would be suffocated before help could be secured. Unless this method of construction is discontinued we shall be obliged to urge that laws be placed on the statute books against such window construction.

Scientific Sanitary Inspection Tests.

The matter of ventilation and sanitary conditions, etc., in factories, shops and office buildings has received considerable attention during the year, and in order to guard against guessing and the probability of making any mistakes we had our analytical chemist conduct scientific investigations in order to ascertain the conditions as they exist in several of our largest factories, shops and office buildings, with a view of having the sanitation improved where necessary. The following will give a brief illustration of this line of special work done by the Department:

Offices.

In the offices inspected we found two-thirds had installed mechanical ventilating systems to remove gasses, etc., which varied in usefulness. On examining the exhaust fan systems installed, the suction at the intakes (some of which were overhead hoods and other floor ducts) varied from .25 to .03 ounces per square inch. In one case the suction was lower than .03, being in fact too low to record on the instrument. The exhaust outlets were found, on examination, to expel from 788 to 2,900 cubic feet of air per minute, according to the size of the system.

Carbon dioxide was found in varying quantities, the average being 14 parts per 10,000 parts air in such offices as were not equipped with mechanical ventilating systems, and in those with such systems installed the average was 8 parts per 10,000 parts air.

Carbon monoxide was found in only one office, being in evidence in the melting pot room, which was poorly ventilated. As the illuminating gas as used in the offices, (as well as other establishments) contains more or less carbon monoxide the necessity of keeping the gas tubing and connections, etc., in good repair is of much importance.

Factories.

Where exhaust fan systems have been installed in factories for the removal of emery, buffing, etc., dust, the suction at the intakes openings recorded from .14 to 2.3 ounces per square inch.

Shops.

For the ventilation of shops in some of our larger cities it has been found necessary to install mechanical ventilating systems. In this class of industries scientifically inspected the tests for carbon dioxide showed that the systems were effective in removing fifty per cent. of this gas, the average being 15 parts carbon dioxide per 10,000 parts air before the mechanical system was installed, and with the system in operation the average was about 7.5 parts.

Mechanical Exhaust Systems.

Much progress has been made in the way of installing mechanical systems for removing shavings, dust, gas smoke, etc., from grinding and polishing machines and forges and furnaces in foundries, but it is apparent that there is still room for improvement, and the following table of sizes may be found advantageous when either improving or installing such systems.

Pipe Sizes for Woodworking Machines.

Cut-off Saws:—	No. of Pipes.	Size of Pipes.
10-16 inch diameter	1	4
18-24 inch diameter	1	5
Rip Saws and Re-saws:—		
10-16 inch diameter	1	4
18-24 inch diameter	1	5
24-60 inch diameter	1	6
Band Saws, small	1	3
Buzz Planer	1	4.7
Pony Planer	1	4.7
Diagonal Planer	1	4.7
Four-sided Planer	4	4.7
Bull Planer	2	4.7
Planer and Matcher	4	4.7
Matcher Heads, each	1	5
Moulder	4	4.7
Sash and Cabinet Shaper	1	4
Door Tenoner	1	5
Sash Tenoner	1	4
Sticker, each head	1	4
Panel Raiser, each head	1	4
Mortiser	1	6
Router	1	4
Jointer	1	4.7
Sand Drum, 24-inch long	1	4
Sand Drum, 30-inch long	1	5
Sand Belt	1	4
Floor Sweeps		6

Sizes of Pipes for Planers, Moulders and Similar Machines with Knives or Saws.

Upper Knives		Lower Knives	
Length..... 5 inches	Size of Pipe .. 4 inches	Length..... 5 inches	Size of Pipe .. 4 inches
" .....10 "	" .. 5 "	" .....10 "	" .. 5 "
" .....14 "	" .. 6 "	" .....14 "	" .. 5 "
" .....24 "	" .. 7 "	" .....24 "	" .. 6 "
" .....30 "	" .. 7 "	" .....30 "	" .. 7 "

For planers handling timber the pipe sizes must be increased 25 per cent. High speed planers and matchers require 50 per cent. more area than indicated in the above table.

Pipe Sizes for Emery Wheel Exhaust Systems.

Diameter of Wheel	Size of Pipe	Diameter of Wheel	Size of Pipe
36 inches	7 inches	20 inches	4½ inches
30 "	6 "	16 "	4 "
26 "	5 "	12 "	3½ "

Hoods.

It is generally understood that it is almost impossible to furnish standards for hood construction as the sizes and variety of machines preclude any possibility of adapting standard designs so that a hood must be constructed to suit the variety of work being done.

Removing Fumes.

Hoods should be so designed that they will not be in the way of the employees, and yet be so constructed that noxious gases will be intercepted before they escape into the workroom; extra care should also be taken to see that pipes and hoods are not too small; it may also be pointed out that in order to remove noxious gases there should be a double hood with an inch or two clearance between the inside and outside hoods.

Exhaust Fans.

A great deal of trouble has been experienced where exhaust fans have been installed at speeds that did not provide for lengths of piping, kind of work, or the power that operates them, and the speed should be determined by the suction pressure to be maintained.

Foundry and Forge Shops.

We have experienced considerable difficulty in having smoke and gases removed from one or two moulding and blacksmiths shops, and while our investigation revealed that both smoke and gases existed in large volumes, which is highly deleterious to those employed, yet the local management seemed quite persistent in delaying the installation of the needed ventilation to remove same when doors and windows are closed during inclement weather. Employers should also remember that heating of such rooms to a temperature of 60 degrees should not be

lost sight of. Ventilation is also required when heat and humidity is so great that it is harmful to health, and it should likewise be rememebred that when air is too dry that it is injurious, and should be moistened.

Importance of Keeping Factories Cool in Summer.

In addition to proper heating and ventilation of factory buildings in winter, it is also urged that some effort be made to maintain a uniform temperature inside the factory in hot weather to between 60 and 70 degrees. This can be arranged in different ways, one being the use of circulating water supply with fans, etc., to convey cooled air throughout the factory, which is greatly appreciated by those employed, and moreover adds not only to comfort but to the production.

Harmful Trades.

Prior to the advent of the present industrial system employees worked closer to nature and harmful trades were practically unknown, but with modern industrial development a large number of occupational diseases have been introduced. As there seems to be a great lack of knowledge in this Province regarding such trades, I am attaching a list of trades which are considered dangerous, and it will be quite evident to any one who is at all familiar with our miscellaneous industries, that very few of the trades referred to operate against the health or comfort of employees. I may add that the manufacture of white lead is certainly dangerous when manufactured under the old methods, but we have in this Province a sanitary mechanical system for drying and dustless handling of white lead, which sets aside the claims made by some writers that the methods of preparing white lead on this continent are much more dangerous than in England and Germany. I recall a conversation I had this summer with a medical specialist connected with a State Factory Inspection Department, who stated that the blue lines at the gums is no longer a dependable symptom. It has also been suggested that men in lead trades wash with hot water, but I recall where a medical specialist pointed out that such advice was wrong, as it is well known that warm water opens the pores thus allowing the poison to enter the system. This specialist advised using cold water, and good cleaning powder that would remove the lead from the hands without opening the pores.

Again, writers claimed that lead poisoning attacked stereotype and linotype operators, which is somewhat misleading. when it is considered that melting pot temperatures are away below evaporating. I might also add that our several scientific tests failed to disclose such claims.

Lead Poisoning:

Manufacture of lead pipe, sheet lead, alloy.
" white lead, Old Dutch process.
" white lead, Carter process.
" red lead and litharge.
" leaden car seals.
" dry colors.
" mixed paints.
" fine grades of putty.
" sanitary supplies.
" storage batteries.
" coffins.
" litho-transfers.
" picture frames.

Painting.
Houses.
Automobiles and carriages.
Agricultural implements.
Railway cars and street cars.

Printing.
Stereotyping.
Mechanical artist's work.
Stencilling sofa pillows.
Wrapping cigars in tin foil.
Labelling paint cans.
Manufacturing wallpaper.
Selling wallpaper.
Sorting and melting metal in junk shops.
Manufacture of articles made of metallic lead (sheets, plates, boxes, pipes, wire, cans, flasks, pails, faucets, retorts, etc.).

PHOSPHORUS POISONING: Manufacture of matches.

ARSENIC POISONING:
Manufacture of dyes.
" wallpaper.
" artificial flowers.
" chemicals.
" glass.
" oilcloth.

WOOD ALCOHOL POISONING: Varnishers and furniture finishers, lacquerers, hatters, etc.

BRASS POISONING: Brass foundries. (Prevalent among men who melt and pour brass.)

MERCURY POISONING:
Manufacture of hats.
" thermometers.
" electric meters.
" explosives.

ANTHRAX: Wool, leather, and horse-hair industries.

SULPHURIC ACID:
Accumulator factories (mold and charging rod).
Manufacture of sulphuric acid.
Burnishing of iron, steel, etc.
Textile industries, hat factories.
Petroleum distillation.
Manufacturing powdered fertilizers.

Other branches of industries in which poisoning occurs are the manufacture of—

Vinegar
Dyes.
Soap.
Coke ovens.
Coating iron plate with tin or zinc.
Varnish and lacquer.
Beet sugar.
Ice.
Refrigerator plants.
Metallic wire for incandescent electric lamps.
Fruit essences.
Aniline dye factories.
Fireworks.
Vulcanizing and red-dyeing of india-rubber.
Cotton dyeing.
Carbonic acid.
Mineral water.
Spirit distilleries.
Fermenting rooms.
Bleacheries.
Paper mills.
Laundries.
Tinning works.
Cement.
Compressed yeast.
Mirror silvering.
Glass.
Enamelware factories.
Chemical cleansing plants.
Glove cleaning.
Brick works.

Lighting.

Some cases of insufficient lighting have been reported, principally a lack of proper lighting of stairways, halls and closets, with a consequent lack of cleanliness, and efforts have been made to secure improvement in this matter.

Better illumination in factories is, however, the important question, and is becoming more prominent, being considered a very decided factor in accident prevention, for it is admitted that many of the avoidable accidents are due directly or indirectly to poor lighting. It is no doubt difficult to secure natural light in many factory buildings, as places which were not originally intended for that purpose are being utilized, but where this is not available, the artificial light should be so arranged and of such a nature that as to be the most effective and the least harmful to the employee, and it is a question requiring much thought and experience; so much has to be taken into consideration when installing a system of lighting, as what may be quite satisfactory in one place may be most unsuited in another. The following few general principles quoted may, however, be useful:

"1st. The lighting system should always be planned so as to produce light on the working plane, or on the object that is to be made visible, and to protect the eyes of the workers from the direct rays of the lamps.

"2nd. A matter of great importance is the proper selection of reflectors, not only for the control of the light distribution, but also for the protection of the eyes.

"3rd. Evenness of distribution and good diffusion are essential factors for successful illumination.

"4th. The space between the working plane and the ceiling should be illuminated with moderate intensity, in order to avoid too sharp a contrast between this space and the lower parts of the room.

"5th. The lighting system should have a low operating and maintenance cost. It should be simple in design, and it should be installed with special reference to permanence and continuity of service."

Employees' eyesight is almost certain to be impaired by the continued use of poor light, and the effort to keep the eyes focused and properly directed induces extra fatigue and is likely to give rise to headaches and many other troubles.

Modern Sanitary Drinking Devices.

Where drinking cups are used they should be sterilized every few days with steam or boiling water. Of course some of the most dangerous germs cannot be destroyed with boiling water unless applied from twenty-five minutes to two hours. Steam, however, is more effective, and the best results can be obtained by placing all such cups in a metal tank that can withstand boiler steam pressure, not too tight or it may explode, and turn in steam, which process will render drinking cups fairly sanitary, and is a superior method to boiling water. Where city or private owned waterworks exist the most sanitary drinking system will be found by introducing the flowing drinking fountain, and the existing faucet could of course be used by reversing the outlet, so that the water could be turned on easily for drinking purposes, and the mouth need not come in contact with the metal faucet.

Storage of Chemicals.

In a paper read before the recent International Congress of Applied Chemistry attention was drawn by Dr. Julius Aeby to the numerous dangers which are likely to arise during the storage of various chemicals, owing to reasonable precautions

not being taken to guard against their occurrence. Bleaching powder will occasionally decompose under the elevation of temperature, though it is claimed by manufacturers that this only occurs when the material is new. Potassium if accidentally mixed with sawdust or fine sweepings will ignite by friction, and arsenic acid may retain enough nitric acid to burst its drums during excessive heat, say, in summer time. Metallic sodium must be kept away from air and water and naked light on account of the occasional pressure of calcium carbide in it.

Conclusion.

I am confident that both manufacturers and wage earners appreciate, with few exceptions, the method of administering the Ontario Factories, Shops and Office Buildings Act by this department, and I cannot allow this opportunity to pass without stating that the newly revised Act of last session has been found to be so far very effective, and will certainly tend to the betterment of industrial conditions throughout the Province.

Respectfully yours,

James T. Burke,

Chief Inspector of Factories

NUMBER OF INSPECTIONS.

District No. 1.

Atikokan	2
Cartier	1
Chapleau	4
Dryden	4
Emo	2
Fort Frances	7
Fort William	74
Graham	1
Hunt	1
Ignace	2
Jack Fish	1
Keewatin	5
Kenora	16
Lavallee	1
Minnitaki	1
North Lake	1
Norman	1
Osaquan	1
Port Arthur	70
Rainy River	6
Rocky Inlet	1
Schreiber	3
Sellers	1
Selwin Lake	1
Sioux Lookout	2
Slate River	1
Stanley	1
Whitefish	1
White River	1

District No. 2

Alvinston	1
Amherstburg	11
Arva	1
Belle River	4
Blenheim	10
Bothwell	4
Bryanston	1
Byron	2
Chatham	62
Chelsea Green	1
Cottam	1
Delaware	2
Dresden	9
Dutton	9
Essex	7
Ford City	1
Forest	7
Glencoe	5
Harrow	5
Highgate	4
Kingsville	11
Lambeth	1
Leamington	13
London	220
McGregor	1
Merlin	3
Mount Bridges	2
Newbury	5
Petrolea	15
Port Stanley	2
Pottersburg	1
Ridgetown	12
Rodney	6
St. Thomas	65
Sandwich	9
Sarnia	41
Stoney Point	1
Strathroy	19
Tecumseh	3
Thamesville	8
Tilbury	9
Tupperville	2
Walkerville	20
Wallaceburg	22
Wallacetown	2
West Lorne	6
Westminster	2
Windsor	57
Wyoming	3

District No. 3.

Toronto	854
Special visits	55

District No. 4.

Aldershot	2
Arthur	2
Aurora	15
Bala	1
Bancroft	2
Barnsdale	1
Barrie	5
Berriedale	1
Bond Lake	1
Bradford	2
Bracebridge	8
Brampton	9
Bridgenorth	2
Burk's Falls	3
Burlington	9
Byng Inlet	2
Cache Bay	3
Campbellford	5
Cannington	4
Cobalt	4
Cochrane	3
Coldwater	1
Collingwood	4
Cooksville	1
Elgin Mills	1
Fenlon Falls	1
Fesserton	2
Georgetown	8
Glen William	3
Gravenhurst	3
Gordon Bay	1
Haileybury	2
Huntsville	4
Huttonville	1
Kearney	2
Lakefield	4
Lindsay	16
Markham	3
Meaford	6
Marmora	4
Midland	15
Milton	8
New Liskeard	2
Newmarket	6
New Toronto	4
North Bay	8
Norval	1
Oakville	8
Orangeville	3
Orillia	9
Otter Lake	1
Owen Sound	13
Parry Sound	5
Pefferlaw	4
Penetanguishene	19
Perth	1
Peterborough	46
Port Credit	1
Port Carling	1
Port Perry	3
Richmond Hill	1
Roderick	1
Sahantien	1
Sellwood	2
Shallow Lake	2
South River	2
Stewarton	1
Stouffville	4
Sturgeon Falls	3
Sucker Lake	1
Sudbury	8
Sundridge	2
Sutton	1
Swansea	4
Terra Cotta	2
Thornbury	1
Toronto	275
Trout Mills	3
Uxbridge	3
Victoria Harbor	3
Waubaushene	1
West Toronto	46
Weston	6
Widdifield	1

District No. 5.

Alexandria	13
Almonte	6
Arnprior	18
Barry's Bay	3
Braeside	3
Brockville	12
Calabogie	2
Carleton Place	9
Casselman	6
Clyde Forks	1
Cornwall	3
Crysler	2
Embrun	4
Finch	3
Galetta	4
Germanicus	1
Golden Lake	2

NUMBER OF INSPECTIONS—*Continued.*

Hawkesbury	28
Kenmore	2
L'Orignal	3
Madawaska	1
Maxville	3
Merrickville	6
Monklands	2
Newington	1
Northfield	1
Osnabruck	1
Ottawa	193
Pembroke	7
Renfrew	13
Rockland	13
Russell	5
Sand Point	1
Smith's Falls	6
Vankleek Hill	10
Vernon	1
Whitney	2

DISTRICT NO. 6.

Aylmer	14
Beamsville	3
Blue Lake	1
Brantford	79
Bridgeburg	17
Brownsville	4
Burford	1
Bullocks Corners	1
Burgessville	1
Caledonia	5
Canboro	1
Cayuga	1
Courtland	1
Delhi	5
Dundas	22
Dunnville	20
Fenwick	1
Fonthill	1
Greensville	1
Grimsby	19
Hagarsville	5
Hamilton	353
Humberstone	3
Ingersoll	18
Jarvis	3
Jordan	1
Merriton	4
Niagara Falls	26
Norwich	18
Orwell	2
Otterville	2
Paris	11
Port Colborne	6
Port Dalhousie	5
Port Dover	5
Port Robinson	1
Queenston	1
St. Catharines	29
St. George	4
St. Williams	1
Simcoe	16
Smithville	1
Springville	4
Stoney Creek	3
Thorold	6
Tillsonburg	13
Vineland	3
Vittoria	4
Waterford	1
Welland	36
Winona	2
Woodburn	1
Woodstock	23

DISTRICT NO. 7.

Atwood	1
Acton	4
Algoma Mills	1
Ayr	5
Ayton	3
Baden	13
Berlin	110
Blind River	2
Blyth	6
Bridgeport	1
Brennan Harbor	1
Bright	1
Bruce Mines	2
Brussels	5
Campbellville	1
Cargill	4
Chesley	19
Clifford	2
Clinton	18
Collins	1
Cutler	1
Dashwood	3
Desbarats	1
Doon	3
Drumbo	1
Durham	5
Drayton	6
Elmira	11
Elora	8
Espanola	1
Exeter	9
Fergus	8
Formosa	2
Galt	66
Gore Bay	4
Goderich	21
Greenfield	1
Guelph	70
Hanover	15
Harriston	11
Hensall	5
Hepworth	4
Hespeler	13
Hilton	1
John Island	1
Kagawong	1
Kincardine	22
Kintore	1
Lake Manitou	1
Little Current	5
Listowel	10
Lucknow	15
Manitowaning	1
Massey	4
Meldrum Bay	1
Mildmay	5
Millbank	1
Milverton	6
Mitchell	7
Moffat	1
Mount Forest	8
Nassageweya	1
Nesterville	1
Newstadt	4
New Hamburg	21
Paisley	2
Palmerston	1
Plattsville	4
Port Elgin	8
Preston	41
Richards Landing	1
Rockwood	2
St. Jacob's	3
St. Mary's	10
Sault Ste. Marie	58
Seaforth	9
Serpent	1
Southampton	19
Spanish	1
Spragg	1
Steelton	4
Stratford	14
Tara	4
Tavistock	5
Thessalon	3
Thorndale	3
Walkerton	27
Waterloo	48
Webbwood	2
Wellesley	4
Wiarton	24
Wingham	30
Worthington	2
Wolverton	1
Zurich	4

DISTRICT NO. 8.

Albury	9
Belleville	38
Bloomfield	12
Bowmanville	14
Brighton	11
Castleton	2
Centreton	1
Cherry Valley	2
Clareview	1
Cobourg	3
Coderington	1
Colborne	8
Consecon	1
Corbyville	1
Deseronto	14
Enterprise	4
Foxboro	1
Frankford	4

NUMBER OF INSPECTIONS—*Continued.*

Gananoque	23
Glen Miller	1
Grafton	3
Harrowsmith	1
Kingston	20
Lakeport	2
Larkin	1
Lyn	1
Marlbank	3
Milford	1
Napanee	1
Newburg	3
Newcastle	1
Northport	1
Odessa	5
Orland	1
Orono	3
Oshawa	6
Picton	22
Point Ann	2
Port Hope	23
Port Milford	2
Rednersville	1
Salmon Point	1
Scarboro	1
South Bay	1
Spring brook	1
Smithfield	1
Strathcona	1
Sydenham	1
Toronto	247
Tichborne	2
Trenton	19
Vineland	1
Wagersville	1
Wapoos	2
Wellington	10
West Lake	1
Wicklow	1
Wilton	1
Wooler	1
Yarker	2

DISTRICT No. 9.

Berlin	25
Galt	30
Hamilton	72
Toronto	1077

DISTRICT No. 10.

Acton	8
Arnprior	23
Aurora	10
Barrie	3
Belleville	56
Bloomfield	3
Bracebridge	12
Brampton	14
Brockville	35
Brussells	13
Cardinal	6
Cobourg	38
Collingwood	35
Consecon	1
Cornwall	11
Durham	1
Elora	15
Fergus	17
Gananoque	16
Georgetown	10
Guelph	62
Hawkesbury	13
Hillier	1
Huntsville	9
Kingston	48
Kincardine	14
Lucknow	11
Meaford	18
Morrisburg	1
Napanee	15
Newmarket	8
North Bay	22
Orillia	14
Oshawa	22
Ottawa	158
Perth	29
Picton	29
Port Elgin	11
Port Hope	6
Prescott	16
Renfrew	11
Rockwood	5
Smith's Falls	19
Southampton	12
Toronto	175
Trenton	18
Walkerton	19
Wellington	6
Wingham	27

ACCIDENTS REPORTED

1913

TABULATED BY INSPECTION DISTRICTS.

Office No.	Date.	Employer	Place	Sex of Injured Person	Age	Particulars
Dist. No. 1						
1271	Aug. 11 ...	Can. Northern Coal & Ore Dock Co	Port Arthur	M	....	*Killed by fall from overhead trestle to bottom of bin.
1398	Oct. 14	Can. Northern Coal & Ore Dock Co	" " ...	M	28	*Arm and foot crushed; caught in revolving gears of elevator machinery.
1447	Sept. 23 ...	Can. Stewart Co	Fort William ...	M	28	*Breaking and falling of forms.
1448	Sept. 23 ...	" "	" "	M	24	*Breaking and falling of forms.
527	April 16 ...	Horn & Co	Port Arthur	M	28	Leg off below knee; became entangled in rope.
388	Mar. 18 ...	Keewatin Lumber Co.	Keewatin	M	49	Loss of three fingers and thumb cut; hand caught on circular saw.
1029	July 13 ...	" " "	"	M	18	Leg bruised; fell under wheel of dump cart.
1178	Aug. 18 ...	" " "	"	M	51	Leg broken; truck ran off tramway, upsetting load.
491	April 3	Maple Leaf Milling Co	Kenora	M	27	Arm broken; drawn between rollers on tripper.
1258	Sept. 2	" "	"	M	32	Back of head gashed; piece of board fell.
963	July 7	Port Arthur Waggon Co	Port Arthur	M	....	Two fingers off, one cut; while jointing, crossgrained piece got across knives and slipped away, allowing hand to drop on knives.
1331	Aug. 14 ...	Western Dry Dock & Ship Building Co.	" "	M	30	*Drowned; working on steamship, fell from staging into lake.
1360	Oct. 1	Western Dry Dock & Ship Building Co.	" "	M	27	*Skull fractured; missed footing on staging.
Dist. No. 2						
1030	July 16 ...	Campbell & Son	London	M	....	Flesh wound on forehead; piece flew from rip-saw.
891	June 26 ...	Can. Roofing Mfg. Co	Windsor	M	....	Natural gas explosion; face scorched.
892	June 7	" "	"	M	35	*Fell into vat of asphaltum; so badly burned death resulted.
1424	Oct. 2	C.P.R. Round House	London	M	....	Eye injured; caulking side sheet, piece of iron flew off.
1091	Aug. 3.	Can. Salt Co	Sandwich	M	....	*Watching storm; roof fell in, crushing head.
715	April 23 ...	Empire Mf'g. Co.	London	M	....	Loss of arm; putting on belt.
292	Feb. 21	Forest Basket Co	Forest	M	....	Palm cut; tightening nut on score knife of veneer lathe, wrench slipped.
711	May 23	" "	"	M	....	Loss of finger; came in contact with revolving saw.
248	Feb. 20 ...	Globe Casket Co.	London	M	....	Severely scalded by steam; blow-off pipes from boiler blew out.
784	June 4	Goodison Thresher Co	Sarnia	M	....	Three fingers off left hand, on shaper.
13	Dec. 20,1912	Green & Swift	London	M	36	*Scalded by steam.
934	June 26 ...	Heard & Co.	St. Thomas	M	18	*Fell on circular saw; oiling countershaft above saw.
227	Feb. 17. ...	Kerr Engine Co.	Walkerville	M	....	Foot sprained; flask fell.
933	July 3	" "	"	M	....	Scalp wound; climbed on roof to throw water on a fire.
1450	Oct. 9	Lawson & Jones	London	M	15	Leg hurt; carelessness on elevator.

632	May 7	London & Petrolia Barrel Co.	"	M	32	*Stepped against circular saw and was thrown between top and bottom, severing body.
1120	Aug. 8	McCormack Manf'g Co.	"	M	35	*Attempted to get off elevator before it stopped; caught between bottom of car and floor.
549	April 18 ...	Miller Limited	"	M	15	*Shock; cut hand on saw, cutting brass.
550	April 16 ...	O Pee-Chee Gum Co.	"	M	30	Finger off, nail bruised; caught in gum roller.
962	July	Perrin & Co.	"	M	....	Hand crushed and bones broken; caught in rollers of reversible brake machine.
459	April 2 ...	Somerville Paper Box Co.....	"	M	16	Thumb bruised, nail off; put fingers in corner staying machine to pull out tape.
1115	Aug. 9	" " ...	"	M	....	Finger crushed in corner staying machine.
1429	Oct. 22	" " ...	"	M	22	Bruise on arm and flesh broken; operating Platen printing press.
1437	" 23	" " ...	"	F	....	Finger injured on corner stitching machine.
64	Jan.	Strathroy Furniture Co	Strathroy	M	....	Struck by piece of wood from rip-saw.
247	Feb. 20	" "	"	M	....	Thumb nail taken off; caught in chain of endless jointer.
596	April 22 ..	" "	"	M	....	Slipped on floor; hand came in contact with rip saw.
1150	Aug. 15 ...	" "	"	M	55	Thumb of left hand split up as far as first joint on rip-saw.
65	Jan. 23 ...	T. H. Taylor Co.	Chatham	M	....	Crushed about hips and ribs while working at spinning mill.
147	Feb. 1	" "	"	F	....	Hand caught between lathe and temple of loom while pulling threads from cloth.
802	June 10 ...	" "	"	M	....	Face burned; lighting furnace, gas flew back.
56	Jan. 8	Thomas Bros	St. Thomas	M	50	Head and eye cut; fell on ice.
67	Jan. 24	" "	"	M	21	Nail off little finger, another cut; caught in feed rolls of re-saw.
180	Feb. 11 ...	" "	"	M	18	Cut finger on left hand.
335	Mar. 1	" "	"	M	60	Knee sprained; lost balance and fell from scaffold.
357	" 6	" "	"	M	50	Cutting key, corner broke off chisel and struck eye.
425	" 27 ...	" "	"	M	19	Top of finger cut off by rip-saw.
1229	Sept. 3	" "	"	M	41	Finger split; piece flew from saw.
1432	Oct. 22	" "	"	M	16	Flesh on palm torn and smashed; drawn between feed rolls of re-saw.
Dist. No. 3						
138	Jan. 31	Barchard & Co.	Toronto	M	40	Arm off above elbow, on a lock corner cutter machine.
944	July 4	" "	"	M	33	Loss of thumb.
85	Jan. 3	Beck M'fg. Co.	"	M	....	Hand wounded on sander.
589	April 26 ...	Boeckh Bros.	"	M	30	Finger cut on shaper.
714	May 22	" "	"	M	35	Top of finger taken off on shaper.
426	Mar. 3	H. C. Boulter & Co.....	"	M	15	Head and legs hurt; fell down hoist.
562	April 14 ...	Canada Label & Webbing Co.	"	F	....	Arm broken; weaver.
650	May 12	Canadian Chewing Gum Co..	"	M	60	Shoulder blade and two ribs broken; fell off runway.
728	" 26	" " " ..	"	M	14½	Loss of two fingers; adjusting sheet of gum in front of rollers.

*Fatal.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer	Place	Sex of Injured Person	Age	Particulars
Dist. No. 3						
1306	Sept. 15 ...	Canadian Chewing Gum Co..	Toronto	F	15	Finger joint cut on wrapping machine.
50	Jan. 8	Can. Fairbanks Morse Co. ..	"	M	....	Face and arm cut and burned; struck by piston rod, fell on steam pipe.
90	" 17	" " " ..	"	M	22	Loss of first finger to second joint; caught in gear cutter while cleaning it.
91	" 21	" " " ..	"	M	26	Leg burned; attempted to stamp out burning waste, trousers caught fire.
184	Feb. 6	" " " ..	"	M	....	Foot jammed; caught underneath wheel of tractor truck.
197	" 8	" " " ..	"	M	25	Foot and leg burned; collapsed while carrying bull ladle of molten iron.
198	" 3	" " " ..	"	M	21	Burn; got arm against rod rammer in foundry.
219	" 13	" " " ..	"	M	35	Vein severed above elbow; hammering down flange, pieces of steel flew.
415	Mar. 20	" " " ..	"	M	45	Loss of eye; struck by piece of iron or steel.
590	April 23 ...	" " " ..	"	M	30	Bone broken in forearm; reaming castings on lathe, drawn into lathe bed or struck by wrench.
693	May 14	" " " ..	"	M	39	Eyeball burned; hot iron splashed.
705	" 19 ...	" " " .	"	M	58	*Fracture of skull at base of brain; supposed to have fallen from ladder.
721	" 26	" " " ..	"	M	30	Arm broken, crushed ribs, head injured; boom on jib crane fell.
834	June 11 ...	" " " .	"	M	22	Badly cut wrist; caught between lathe dog and lathe.
881	" 18 ...	" " " ..	"	M	18	Cut nose and bones in same displaced; fell on wheelbarrow.
1168	Aug. 15 ...	" " " ..	"	M	33	Finger nail pulled off; bolting base to table, crane pulled bolt head on finger.
1344	Sept. 22 ...	" " " ..	"	M	....	Blood poisoning; scratch from brass oiler, feeling for blowing piston on oil engine.
1374	Oct. 2	" " " ..	"	M	35	Eye cut; dowel pin flew up, striking eye.
216	Feb. 14	Can. Rumley Co.	"	M	23	Loss of left arm; came in contact with gears of machine.
182	" 6	John Carlyle	"	M	35	Hand injured slightly on saw sharpening machine.
580	April	Collet-Sproule	"	F	16	First joint of finger amputated; caught in staying machine.
581	"	"	"	F	25	Ends of three fingers caught in staying machine.
1457	Oct. 31	Cooper Cap Co	"	M	16	Fell down elevator shaft.
621	May	W. Davidson & Co	"	M	....	Three fingers taken off in buzz planer.
627	"	Firstbrook Bros	"	M	25	Portion of index finger off, on self-feeding saw.
355	Mar. 6	W. J. Gage & Co.	"	F	18	Nail torn off index finger.
356	" 8	" "	"	F	16	Index finger nail torn off; put hand in machine while in motion.
544	April 18 ...	" "	"	M	45	*Leg broken; moving mill board, pile near fell on him.

1214	Aug. 25	G.T.R. Car Shops	"	.....	M	56	Foot bruised; bending rails, one fell on foot.
704	May 15	Gutta Percha & Rub. Mfg. Co.	"	.....	M	....	*Internal injuries; fell out of elevator car which came down on him.
1042	July 24	" " "	"	.....	M	....	Fingers crushed; feeding rubber beading into rolls of belt machine.
24	Jan. 8	Geo. H. Hees & Co.....	"	.....	M	....	Fell from ladder and rendered unconscious.
1190	Aug. 22	Hunter-Rose Co	"	.....	M	....	Knee hurt and badly shaken; fell down elevator shaft.
1049	July 11	McGregor & McIntyre	"	.....	M	45	Ankle broken; beam fell.
253	Feb. 18	McDonald Mfg. Co.	"	.....	M	19	Ends of four fingers taken off on power stamping machine.
274	" 21	" "	"	.....	M	25	Three fingers injured on stamping press.
647	May 3	" "	"	.....	M	50	Three fingers off first joint; blanking bottoms on power press.
651	" 6	" "	"	.....	M	19	Two fingers off at first joint on press; flanging oil can breasts.
809	" 29	" "	"	.....	M	28	Tip of finger crushed; flattening honey covers, caught in die of press.
1318	Sept. 16	Northern Aluminum Co.....	"	.....	M	....	Bone of toe crushed, nail off; put hand on gear wheel of pump, wheel revolved, bringing shaft down.
1017	July 5	Parsons & Brown Co	"	.....	M	....	Back and head injured; fell down hoist.
710	May 16	Plastics, Ltd.	"	.....	M	....	Arm torn out at elbow; disengaging belt on line shafting.
797	June	Robertson Bros.	"	.....	M	....	Tip of index finger taken off in staying machine.
798	"	" "	"	.....	M	....	Two fingers crushed in cocoanut machine.
869	" 19	Stauntons Ltd	"	.....	M	28	Fingers of left hand slightly injured; hoist dropped.
996	July	" "	"	.....	M	....	Four fingers cut; engine bearing slipped and fell.
1312	Sept. 9	" "	"	.....	M	24	Cut artery in thumb; cleaning window, pressed too hard on pane.
1314	" 23	" "	"	.....	M	21	Bruised and cut arm; caught between drum and rubber apron of grinding machine.
20	Jan. 7	Steel & Radiation Co	"	.....	M	19	Back of head burned by molten iron.
120	" 25	" "	"	.....	M	22	Finger laid open to knuckle and badly crushed; caught between fire pot and skid.
476	Mar. 31	" "	"	.....	M	24	Arm bruised, rib broken; moulding boxes fell over.
477	April 1	" "	"	.....	M	....	Arms, back and legs burned by molten metal; metal exploded.
720	May 26	" "	"	.....	M	24	Eye burned by spark from furnace.
767	June 2 ...	" "	"	.....	M	24	Foot burned; stepped on hot metal.
868	" 19	" "	"	.....	M	23	Wall radiator fell and bruised leg and smashed big toe.
804	June 10	" "	"	.....	M	23	Eye burned; hot metal splashed.
968	July 7	" "	"	.....	M	32	Body and legs burned by hot iron; ladle slipped off clutch.
979	" 11	" "	"	.....	M	30	Hand cut open; piling boilers, jammed between water post and fire pot.
981	" 11	" "	"	.....	M	36	Leg bruised and swollen; radiator fell on him.

*Fatal.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer	Place	Sex of Injured Person	Age	Particulars
Dist. No. 3						
1099	July 30....	Steel & Radiation Co.....	Toronto	M	71	Top of finger cut off; oiling gears, machine was started unnoticed by him.
375	Mar. 13	Sterling Paper Box Shop	"	M	....	Finger injured on staying machine.
1203	Aug. 22	" " "	"	M	....	Loss of two finger ends; got under knife of corner cutter.
922	June 30 ...	Stauntons, Ltd	"	M	40	Right hand crushed between screw and stick elevator.
764	May 31	Stone Lithographing Co. ...	"	M	28	Eye slightly injured and cuts; explosion of gas.
800	June 11 ...	Stone, Ltd.	"	M	17	Finger nail crushed off; Scott set-off press.
1116	Aug. 9	"	"	M	17	Bad abrasion; leg caught in elevator.
1261	Sept. 8	"	"	M	20	Bruised and cut; roller fell on hand.
376	Mar. 19	Telfer M'fg. Co.	"	M	21	Hand severed at wrist; operating paper cutter.
1129	Aug. 12	" "	"	M	....	Finger crushed on folding box press.
1216	Sept. 2	" "	"	F	....	Thumb crushed in corner staying machine.
1361	Oct. 2	" "	"	F	....	End of finger crushed on corner staying machine.
175	Feb. 8.	Toronto Hardware M'fg. Co..	"	M	34	Vertebrae dislodged and fractured; being under descending structure.
606	April 30 ...	" " " ..	"	M	1	Foot and leg burned; molten iron spilled.
745	May 27	" " " ..	"	M	40	Burned by hot galvanizing material; standing too near tank.
808	June 10 ...	" " " ..	"	M	29	Foot burned; molten iron.
Dist. No. 4						
1222	Aug. 29	Aitken & Son	Beeton	M	....	Loss of finger; caught between crank and plumbing block.
264	Feb. 12	Beck M'fg. Co.	Penetang	M	....	Portion of two fingers taken off; operating stave saw.
382	" 24	Beverley Wood Specialty Co..	Toronto	M	25	*Stepped on elevator when away from floor; jammed between hoist and next floor.
997	May 16	Canada Cement Co.	Lakefield	M	20	Little finger split open on end; coupling engine to cars.
998	" 23	" "	"	M	22	End of first finger split open; stopping dump car with stick; caught between stick and wheel.
999	June 3	" "	"	M	38	Little finger split open; releasing crutch on Krupp ball grinding mill with crow bar.
1000	" 10	" "	"	M	32	Bruised and lacerated arm; sleeve caught on set screw.
1001	July 9	" "	"	M	35	Calf of leg and thigh lacerated; lorry wheels rolled off truck.
1002	" 14 ...	" "	"	M	35	Four toes crushed; side and front of foot lacerated.
296	Feb. 25	Canada Flax Fibre Co.	Arthur	M	16	*Caught in pulley.
15	Oct. 15	Canada Foundry Co.	Davenport	M	48	Leg bruised above knee; moving angles, one swung around.
16	Nov. 27	" "	"	M	26	Fell from ladder, striking head and bruising arm.
17	Dec. 14, '12.	" "	"	M	45	*Legs and arms burned by hot soot.
18	" 11	" "	"	M	41	Beam fell on leg, bruising it.

214	Jan. 20	"	"	"	M	18	Loss of three fingers; hoisting stake rivetter, grasped cable, hand was carried between block and cable.
215	" 14	"	"	"	M	40	Thumb crushed; moving boiler plates; caught in chain or block, causing compound fracture.
439	Mar. 17 ...	"	"	"	M	40	Hand bruised; caught between two beams; slipped.
440	" 10	"	"	"	M	18	Lip cut; hook slipped from crane and struck mouth.
441	" 5 ..	"	"	"	M	30	Ankle bruised; handle of hoisting gear struck him; cable broke.
473	" 27	"	"	"	M	53	Cut in hand; caught in circular saw.
474	" 24	"	"	"	M	30	Lip cut; drift pin rebounded.
475	" 19	"	"	"	M	....	Hand smashed; caught between pipe and lathe.
482	" 10	"	"	"	M	24	Foot crushed; fitting tender truck; bracket fell.
592	April 10 ...	"	"	"	M	....	Cuts in leg; ramming flasks; caught between two.
593	" 10 ...	"	"	"	M	....	Foot burned; metal splashed.
594	" 9	"	"	"	M	....	Ankle broken; slipped on iron plate.
595	Mar. 31	"	"	"	M	....	Leg fractured; pressing shaft into crane; rolled against leg.
723	April 24 ...	"	"	"	M	....	Struck in eye by piece of steel; chipping and calking with pneumatic hammer.
724	May 14 ...	"	"	"	M	....	Hand cut; caught on skid, raising beam by hand.
725	" 6	"	"	"	M	....	Toe crushed; raising plate which slipped.
726	April 24 ...	"	"	"	M	....	Cut head; patterns fell off hook.
727	May 6	"	"	"	M	....	Foot crushed; hoisting beam; hook broke, allowing beam to fall.
1075	June 26 .. .	"	"	"	M	....	Compound fracture of toe; moving steel ring by crane, ring fell.
1076	July 3	"	"	"	M	....	Top of finger nearly severed; jammed between tool and casting.
1132	" 9	"	"	"	M	....	Loss of eye; fixing slotting tool into holder; piece of steel broke.
1133	" 28	"	"	"	M	....	Legs badly bruised; caught between two columns.
1134	"	"	"	"	M	....	Top of forefinger torn off; handling pipe flasks; caught between joints.
1135	" 18	"	"	"	M	....	Ankle bruised; raising angle iron with air hoist, iron dropped.
1302	Sept. 8	"	"	"	M	....	Wrist fractured; fell from ladder.
1359	" 17	Can. Allis-Chalmers, Ltd		"	M	....	Face, head and arm cut; reaming angle flew up and hit him.
1416	Oct. 21	"	" "	"	M	18	*Burns and shock; tightening plug in oil tank which came off, allowing oil to come in contact with furnace.
1436	" 21	"	" "	Toronto	M	58	*Burns; oil came in contact with furnace; plug came off tank.
26	Jan. 13	Can. Gen. Electric Co.		Peterborough .	M	51	Incised wound across wrist; bundle of sheet iron slipped back from pile.

*Fatal.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer	Place	Sex of Injured Person	Age	Particulars
Dist. No. 4						
27	Jan. 10	Can. Gen. Electric Co.....	Peterborough ...	M	29	Contused wound on thigh; lifting casting with air hoist rope broke and casting rubbed against thigh.
28	" 13	" " "	" ...	M	25	Lacerated wound on thumb; cutting steel to length, placed thumb too far up strip.
9	Dec. 30, '12.	" " "	" ...	M	49	Lacerated wound on thumb; hand slipped; operating circular saw
32	Jan. 16	" " "	" ...	M	25	Incised wound on back of hand; caught against pile of slator punchings.
33	" 7	" " "	" ...	M	22	Toe bruised at second joint; chipping pole in vise concussions of air hammer knocked it out.
34	" 8	" " "	" ...	M	25	Fingers and thumb burned; connecting potential trans. Electricity.
35	" 8	" " "	" ...	M	24	Compound fracture of thigh; struck by hook.
92	" 16	" " "	" ...	M	19	Hand and arms burned by tar; slipped while carrying pail.
200	Feb. 5	" " "	" ...	M	21	Sheared off end of finger; released shears while finger was between blades.
201	" 6	" " "	" ...	M	21	Punctured wound on foot; pierced by spike on ladder.
380	Mar. 10	" " "	" ...	M	22	Compound fracture index finger; released machine while setting material in die.
381	" 4	" " "	" ...	M	21	Top of forehead cut and bruised; bar slipped from hand of man.
450	" 17	" " "	" ...	M	....	Lacerated end of finger; placing work on die; tripped press.
451	" 17	" " "	" ...	M	43	Finger cut, cord severed; caught against corner of sheet.
452	" 18	" " "	" ...	M	15	Tip off finger on shears; placed fingers too near knives.
453	" 24	" " "	" ...	M	....	Lacerated wound, three fingers, two others severely bruised; spring broke and press repeated.
472	" 31	" " "	" ...	M	....	Eyebrow and pupil of eye burned; solder flew out of pot.
494	April 8	" " "	" ...	M	69	One leg broken and both legs bruised; wheeling scrap iron, pile upset.
495	" 7	" " "	" ...	M	45	Foot bruised, toe broken; casting fell.
496	" 16 ...	" " "	" ...	M	36	Knee sprained; walking up slanting plank, fell off.
497	Apr 7....	" " "	"	M	39	Eye lacerated; chip of steel embedded in eye.
519	" 11....	" " "	" ...	M	....	Lacerated wound on finger; sharpening knife, caught on stone.
607	" 24....	" " "	" ...	M	....	Foot badly bruised; caught between floor and elevator.
788	May 26....	" " "	" ...	M	16	Palm of hand cut; assembling iron in transformer; iron slipped off bench.
789	" 26....	" " "	" ...	M	....	Thumb and finger lacerated; grinding copper bar on emery wheel; slipped.

857	June 10....	"	"	.....	"	....	M	38	Finger taken off in press; tripped press before removing hand.
858	" 2....	"	"	.....	"	....	M	24	Cut and sprained wrist; fell from coil rack through glass roof of varnishing room.
859	" 4....	"	"	.....	"	....	M	42	Steel eye beam fell; jammed hand, cut and broke fingers.
890	" 3....	"	"	.....	"	....	M	23	Deep cut between thumb and finger, bone broken in hand; caught between sheave dog on drill.
965	" 26....	"	"	.....	"	....	M	49	Three toes bruised, one amputated; lifting armature with air hoist, rope slipped up shaft.
966	" 27....	"	"	.....	"	....	M	20	Cuts on head; armature rolled off bench.
1141	Aug. 4....	"	"	.....	"	....	M	50	Wrist lacerated; wheeling iron; struck against edge of steel.
1142	" 4....	"	"	.....	"	....	M	45	Foot bruised; auto truck ran across it.
1143	" 6....	"	"	.....	"	....	M	38	Nail torn off, toe crushed; casting fell on foot.
1144	" 1....	"	"	.....	"	....	M	26	Cut between fingers on emery wheel; drift caught, forcing end into hand.
1163	" 19....	"	"	.....	"	....	M	42	Burned face, breast and back; removing rheostat from test lines, short circuited.
1179	" 14....	"	"	.....	"	....	M	22	Burn on fingers; short circuit.
1180	" 16....	"	"	.....	"	....	M	38	Frontal bone and nose broken; gash at back of head; lifting rack with crane, rack tipped over.
1181	" 19....	"	"	.....	"	....	M	24	Badly burned by electricity removing rheostat from test dept. for repairs.
1281	" 29....	"	"	.....	"	....	M	17	Two fingers cut counterboring caught in clutch of monitor.
1296	Sept. 3....	"	"	.....	"	....	M	35	Instep bruised, foot cut; shifting jig; fell on foot.
1303	" 20....	"	"	.....	"	....	M	....	*Ribs and leg broken; cable of crane broke and hook fell.
1304	" 9....	"	"	.....	"	....	M	....	Ends of two fingers crushed by die on bed of press, helper let die slip.
1305	" 9....	"	"	.....	"	....	M	....	Two fingers cut kept foot on trip of press.
1328	" 15....	"	"	.....	"	....	M	41	Hand sawed from centre to wrist, reaching over to pick up board.
1329	" 12....	"	"	.....	"	....	M	34	Finger severely cut clearing chips away, struck against cutter.
1382	" 29....	"	"	.....	"	....	M	20	Two fingers crushed; trip rod on press broke.
377	Mar. 11....	C. P. R. Car Shops		.....	West Toronto	..	M	....	Concussion and shock fell off boiler.
167	Feb. 7....	"	"	.....	"	..	M	27	Arm bruised; moving scaffold to place, same fell against him.
183	" 10....	"	"	.....	"	..	M	32	Loss of finger by kicking wood out of hand, finger caught in knife.
191	" 13....	"	"	.....	"	..	M	25	Base of finger punctured; handle of chisel broke, shank pierced finger.
287	" 27....	"	"	.....	"	..	M	42	Bruise; slipped off scaffold pole.
288	" 28....	"	"	.....	"	..	M	43	Cut three fingers on glass; lifting fish racks.

*Fatal.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer	Place	Sex of Injured Person	Age	Particulars
Dist. No. 4						
304	Feb. 22....	C. P. R. Car Shops	West Toronto ..	M	24	Foot bruised; struck against iron plate; steps he was on fell.
346	Mar. 12....	" "	" ..	M	38	Bruise and skin broken; holding coldset, struck sledge hammer.
467	Apr. 3....	" "	" ..	M	....	Cut on palm of hand; neck of tea bottle broke.
485	" 4....	" "	" ..	M	....	Cut below eye; cutting rivets, splinter from cold chisel struck him.
591	" 24....	" "	" ..	M	50	Foot bruised; placing lumber on car, plank fell.
625	May 2....	" "	" ..	M	26	Flesh torn off hand; taking wheels off boring machine, same slipped.
644	" 9....	" "	" ..	M	27	Face burned; gasoline lamp exploded.
648	" 9....	" "	" ..	M	51	Hands and chin cut; piece flew from rip saw.
835	" 27....	" "	" ..	M	31	Bruised hip; piece of lumber flew from saw.
780	June 5....	" "	" ..	M	29	Nail torn off fixing train line end valve.
795	" 9....	" "	" ..	M	40	Finger crushed; placing still on lay-out.
812	" 12....	" "	" ..	M	28	Flesh wound on thigh, abrasion of hand; removing meat rack from car.
1386	Sept. 28....	C. P. R. Roundhouse	Havelock	M	....	Struck on nose by shovel.
1412	Oct. 5....	" "	"	M	....	Finger crushed; cutting dowel pin.
545	Apr. 10....	Clarke & Clarke	Toronto	M	15	*Caught in elevator.
93	Jan. 13....	Dalton Bros.	"	M	....	Rib broken; torn coat caught in shaft.
481	Apr. 7....	Delaney & Pettit	"	M	....	Struck on back of hand; attempted to oil fan while in motion.
240	Feb. 7....	Dodge Mfg. Co	"	M	34	*Leg broken; transferring moulding box, cross-carrier beam broke.
241	" 7....	" "	"	M	45	Crushed leg; caught in cinder mill.
692	Apr. 10....	" "	"	M	16	Thigh wrenched; fell down hoist.
882	June 23....	" "	"	M	65	Fingers cut; callipers caught on sheave, drew fingers between groove and callipers.
1188	Aug 25....	" "	"	M	40	Two fingers cut; ripping piece of wood.
1295	Sept. 17....	" "	"	M	21	*Skull fractured; operating grinding machine, emery wheel burst.
1431	Oct. 19....	Doric Portland Cement Co. ..	Owen Sound	M	....	*Caught on countershaft; so badly injured he died soon after released.
967	July 10....	Firstbrook Box Co.	Penetanguishene .	M	69	Compound fracture of arm; caught in planer feed rolls.
340	Mar. 10....	G. T. R. Car Shops	Toronto	M	18	*Struck by engine; walking alongside track.
563	Apr. 21....	" "	"	M	21	Foot bruised; truck wheel ran over foot.
702	May 14....	" "	"	M	50	Two fingers cut; caught between cutters and pressure bar.

301	Mar. 4....	Ideal Bedding Co.	"	M	26	*While trying to put belt on line shaft pulley with a stick, became entangled in belt.
1352	Sept. 29....	Keenan Woodenware Co.	Owen Sound	M	34	Bones in arm broken in several places putting belt on.
130	Jan 31....	Massey-Harris Co.	Toronto	M	32	Hand caught in rivet press, crushing thumb.
177	Feb. 6....	" "	"	M	49	Leg broken; binder table fell.
584	Apr. 24....	" "	"	M	....	Small bones in foot broken; bar fell.
585	Apr. 22....	" "	"	M	40	Small bones in foot broken; box fell.
672	May 9....	" "	"	M	46	Scalp wound; steel bar in machine struck him.
988	July 9....	" "	"	M	40	Foot burned by molten iron.
989	" 2....	" "	"	M	40	Leg broken; slipped on floor.
990	June 30....	" "	"	M	23	Fingers crushed; hand caught in drop hammer.
991	" 28....	" "	"	M	19	Thumb crushed; hand caught in bull dozer.
992	" 17....	" "	"	M	23	Foot burned about toes by molten iron.
993	" 16....	" "	"	M	19	Thumb crushed under trip hammer.
994	" 9....	" "	"	M	25	Two fingers cut on jointer.
995	" 6....	" "	"	M	23	Finger crushed; caught under drop hammer.
1252	July 28....	" "	"	M	17	Index finger cut off at second joint on saw.
1253	Aug. 14....	" "	"	M	33	Leg burned; molten iron burnt through ladel.
1254	" 18....	" "	"	M	28	End off thumb; came in contact with emery wheel.
1255	" 15....	" "	"	M	32	Foot bruised; weight fell.
1256	" 28....	" "	"	M	58	Cut on shin bone; casting flew, striking leg.
1257	" 8....	" "	"	M	36	Leg broken below knee; iron flask fell from crane.
315	Mar. 4....	Northern Plaining Mills	North Bay	M	....	Elbow severely cut; tightening bearing on side head of sticker.
1083	July 24....	Ontario & Manitoba Flour Mills, Limited	Sudbury	M	....	*Stepped on end of loose plank and fell to bottom of bin.
422	Mar. 27....	John Parker	Sturgeon Falls ..	M	....	Loss of little finger and part of second; removing sliver from cylinder of moulding machine.
634	May 7....	Polson Iron Works Ltd.	Toronto	M	40	Loss of two nails, fingers cut; swung hand between gear and pinion of crane.
635	" 7....	" " "	"	M	40	Bruised and sciatic nerve injured; squeezed between pile of plate and steam crane.
790	June 6....	" " "	"	M	25	Double fracture of leg, head cut; moving plates, some fell.
810	" 11....	" " "	"	M	19	Foot badly crushed; jammed between bolt head and cross frame.
942	July 2....	" " "	"	M	30	*Fractured skull; fell through opening in floor.
1034	" 21....	" " "	"	M	30	Shoulder severely bruised; valve casting fell from plank above him.
1088	Aug. 1....	" " "	"	M	22	Body bruised; struck by plate swinging from jib crane.
1364	Oct. 2....	" " "	"	M	41	Fingers cut; casting falling.
1402	" 15....	" " "	"	M	24	Internally injured; back guys on gib crane broke, causing boom of crane to strike him.

*Fatal.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer	Place	Sex of Injured Person	Age	Particulars
Dist. No. 4						
332	Mar. 7....	Port Credit Brick Co.	Port Credit	M	28	*Arm broken, gash on forehead, top rib crushed in, general bruises and skin torn off body; clothing caught by sprocket wheel.
421	" 27....	Jos. Simpson & Sons Ltd.	Toronto	M	....	*Found dead in cotton room; particulars unknown.
700	Apr. 28....	" "	"	M	....	Portion of two fingers off; caught in gear of picker machine.
932		" "	"	F	....	Arm caught in pulley when cleaning it.
506	Apr. 9....	J. Snider & Son.....	Hillview P. O....	M	23	Arm mangled, had to be amputated; putting belt on pulley.
799	June 8....	Steel Co. of Canada	Toronto	M	....	Head and face cut, chest bruised; changing door on furnace.
741	May 19....	"	Swansea	M	23	Finger cut; clutch of automatic clutch shut.
722	" 23....	"	"	M	50	Foot bruised; nut fell off bench.
522	Apr. 5....	"	"	M	27	Index finger grazed and burned; caught between rest and emery wheel.
523	" 7....	"	"	M	17	Eye and back of head cut; putting belt on pulley, slipped off ladder.
412	Mar. 14....	"	"	M	42	Rib fractured; fell through hole in floor.
122	Jan. 23....	"	"	M	32	Shoulder bruised; bar of iron flew up.
30	" 15....	"	"	M	59	Face burned by flames, caused by oil gas igniting.
29	" 15....	"	"	M	19	Face and hand burned; held match over funnel, filling oil barrel causing oil gas to ignite.
654	May 9....	"	"	M	15	Eye cut; pointing bolts, dropped one on pulley.
631	Apr. 22....	"	"	M	40	Hand squeezed; setting kicker on heading machine, put hands between dies.
626	" 21....	"	"	M	15	Finger joint cut; pointing bolts, one flew out.
598	" 30....	"	"	M	55	Cut between thumb and finger; forging flew out of die.
742	May 12....	"	"	M	37	Thumb jammed; taking nut from burning machine, caught between head and plate.
927	June 25....	"	"	M	15	Finger torn; pointing bolts, caught between holder and plate.
1003	July 15....	"	"	M	61	Nose pierced, eye injured; dressing steel chisel, end piece flew off.
1004	" 10....	"	"	M	24	Palm of left hand cut; opening window hand slipped.
1121	Aug. 6....	"	"	M	18	Two fingers grazed; grinding plates, hand slipped off emery wheel.
1230	" 29....	"	"	M	21	Finger cut; threading teeth caught in dies.
1362	Oct. 1....	"	"	M	15	Back grazed; slipped and set-screw caught clothes.
1403	" 9....	"	"	M	59	Cut on hand; brought hand down on axe.
121	Jan. 25....	Steel & Radiation	Toronto	M	36	Finger torn; grinding butt on emery wheel.

185	Feb. 1....	"	"	M	28	Small cut on hand; got paint in it.
186	" 7....	"	"	M	22	Head cut; cutting plate, thrown against radiator.
413	Mar. 28....	"	"	M	22	Got steel dust in eyes from grinding on emery wheel.
442	" 31....	"	"	M	....	Hand cut; carrying machine knife, tripped over metal.
652	Apr. 9....	"	"	M	39	Blood poisoning from cut; caught finger between sash and ventilator.
653	" 18....	"	"	M	25	Hand and fingers injured; caught between sash and ventilators.
633	May 3....	"	"	M	20	Face cut; lifting expanded metal, it sprung.
719	" 23....	"	"	M	21	Arm bruised; hand slipped, pressing arm against grinder.
761	" 26....	"	"	M	43	Finger cut; lifting expanded metal, blood poisoning.
886	June 19....	"	"	M	32	Cut thumb; fell over some expanded metal.
887	" 9....	"	"	M	20	Small cut on finger by bar; blood poisoning.
918	" 26....	"	"	M	29	Two fingers cut; jammed between dog and feed wheel of grinder.
919	" 26....	"	"	M	20	Finger cut; operating shearing machine.
953	" 30....	"	"	M	29	Back injured; hot air engine fell, putting roller underneath.
1050	July 22....	"	"	M	25	Head cut; window sash fell.
1210	Aug. 25....	"	"	M	26	Vein in arm cut; piece of steel flew off chisel.
1272	Sept. 4....	"	"	M	19	Arm cut; handling sheets of expanded metal.
1366	" 30....	Swift Canadian Co.....	West Toronto ...	M	....	Knee-cap injured; slipped and fell.
707	Apr. 26....	Toronto Structural Steel Co.	Toronto	M	30	*Back broken; girder fell.
478	" 4....	Trent Valley Woollen Mill...	Campbellford ...	M	....	Laceration of private parts; caught in gears of mule.
217	Jan. 25....	Tudhope-Anderson Co.	Orillia	M	....	Injured by stick flying out of planer.
363	Mar. 14....	"	"	M	23	Four fingers cut on sharp piece of iron.
383	" 19....	"	"	M	24	Stepped on cultivator shank and cut foot.
498	Apr. 11....	"	"	M	51	Loss of little finger nail; hand caught in sander rolls.
444	Mar. 28....	"	"	M	30	Cut chin; lost tooth and broke another; caught in belt.
445	" 28....	"	"	M	40	Finger cut; caught between wheel and tire setter.
479	Apr. 2....	"	"	M	....	Foot burned; tripped and spilled iron from ladle.
551	Jan. 22....	"	"	M	38	Blood poisoning; gash in foot; wheel fell on him.
600	Apr. 29....	"	"	M	21	Hand burned; pouring hot metal.
675	May 9....	"	"	M	28	Three fingers bruised; putting iron in cupola.
691	" 15....	"	"	M	19	Finger split; shovel hit him.
703	" 19....	"	"	M	42	Cut forehead; drifting castings; punch flew back.
708	" 22....	"	"	M	18	Foot slipped off trip, tap drove into finger.
758	" 30....	"	"	M	44	Foot crushed; lifting countershaft off truck, bearing slipped off.
803	June 10....	"	"	M	....	Tore end off thumb; caught in roller of rim stretcher.
832	" 14....	"	"	M	24	Fingers cut and smashed; raising window, slipped.
849	" 17....	"	"	M	32	Finger burst; cutting scrapers, tripped machine, which came down.

*Fatal.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer	Place	Sex of Injured Person	Age	Particulars
Dist. No. 4						
875	June 21....	Tudhope-Anderson Co.	Orillia	M	42	Bruised hand; hub fell off load.
935	" 28....	"	"	M	45	Back injured; piling lumber, plank slipped and hit back.
1035	July 21....	"	"	M	....	Thumb crushed; caught between tire setter and wheel.
1093	Aug. 5....	"	"	M	27	Arm cut; tightening up knives of rim rounder, slipped.
1094	" 5....	"	"	M	42	Tore off finger nail; lifting barrel of castings, barrel slipped.
706	May 21....	Weston Shoe Co., Ltd.	Campbellford	M	19	Finger crushed; dieing out sole leather on die press.
1425	July 31....	Steel Co. of Canada	Swansea	M	35	Finger split; lifting pan of scrap, pan slipped.
1426	Jan. 14....	"	"	M	49	Shoulder and foot bruised; pan of scrap fell off wagon.
1427	June 20....	"	"	M	23	Thumb cut; throwing belt off pulley., hand caught against rivet in belt.
1428	Oct. 11....	Canadian General Electric Co.	Peterborough	M	20	Finger off; cutting red fibre on foot shears, placed fingers under knives.
Dist. No. 5						
674	May 9....	Abbott-Grant & Co.	Brockville	M	27	Finger lacerated, nail torn off on stayer machine.
1156	Aug. 18....	" "	"	M	18	Nail and flesh torn from bone; jammed in box cornering machine.
137	Jan. 28....	Beach Furniture Co.	Cornwall	M	....	Fingers off below first joint; operating rip saw.
1215	Aug.	"	"	M	....	Loss of three fingers; removing clippings from cut-off saw.
571	Apr.. 24....	J. R. Booth	Ottawa	M	18	*Arm drawn into rolls; head came in against rolls of paper.
794	June 5....	"	"	M	....	*Legs broken, one amputated; whirled around shaft, jacket caught.
646	May 5....	"	"	M	17	*Drowned; coffer dam broke allowing fore bay to fill with water.
499	Mar. 17....	C. H. Buell & Son.....	Brockville	M	16	Loss of portion of four fingers; caught in gears of dough-mixer.
454	Apr. 1....	Canada Carriage Co.	"	M	40	Flesh ground off hand; caught in planer.
805	June 7....	"	"	M	37	Piece of board caught back of saw; injured.
921	" 30....	"	"	M	45	Flesh wound on hand; cut on axle bed rounder.
391	Jan. 17....	Canada Starch Co	Cardinal	M	....	Face and hands scalded; removing man-hole of filter, steam burst out.
392	Mar. 21....	"	"	M	....	Face and hands burned.
393	" 21....	"	"	M	....	Face and hands burned.
1263	Sept. 5....	Can. Cooperage M'fg. Co.	Smith's Falls ...	M	....	Arm broken; caught sleeve in feed belt of hoop planer.
925	July 2....	Capital Brewing Co.	Ottawa	M	....	Arms and chest scalded by steam from boiler.
1097	" 29....	Rolla L. Crain Co.	"	M	....	Toe torn off by Optimus press; raised foot to frame of press.
1098	—— —....	"	"	M	....	Hand cut; jammed between plunger of golding press and floor.

1096	July 22....	"	"	F	....	Foot squeezed between frame and crank shank of golding jobber; pulling chair closer to press with foot.
1270	Sep. 6....	Gillies Bros.....	Braeside	M	....	Hand torn off on edger saw.
427	Feb. 5....	Edwards & Co.	Ottawa	M	26	Three fingers amputated.
428	Mar. 26....	"	"	M	28	End of finger cut off; cutting moulding, brought knife down.
429	" 8....	"	"	M	16	Three fingers off at palm, another off at second knuckle; mitten caught on rip-saw.
1171	Aug. 18....	"	Rockland	M	14	*Struck in stomach by board flying back from edger.
1172	" 18....	"	"	M	....	Loss of finger; fixing rivet link chain came down on finger with hammer.
1173		"	"	M	....	Gash in palm of hand; put hand under chain of sawdust carrier to take out slab.
1273	" 28....	"	Ottawa	M	24	Gash on hand; caught in saw.
1274	" 29....	"	"	M	....	Finger severed; caught in saw.
1449	Oct. 24....	"	"	M	20	Cut below elbow; bent over saw in speaking to employee.
21	Jan. 6....	Frost & Wood Co.	Smith's Falls ...	M	....	Hand bruised, one metacarpus bone broken; dipping rake frames, one tipped forward.
36	" 8....	"	" ...	M	24	Let tilt shaft drop on toe, bursting it.
37	" 10....	"	" ...	M	25	Toe bruised and nail torn off; let piece of pig iron fall.
38	Jan 11....	"	" ...	M	36	Cut on nose; drag bar slipped allowing spring to fly up.
96	" 24....	"	" ...	M	18	Nail of finger torn off; on bull-dozer.
145	" 31....	"	" ...	M	28	Muscles of left arm strained; threw arm back to keep from falling, fell on same.
150	Feb. 4....	"	" ...	M	....	Foot bruised, ankle cords strained; piece of pig iron fell.
192	" 13....	"	" ...	M	24	Cut across top of nose and small bone broken; loosening harrow teeth one flew back.
233	" 21....	"	" ...	M	51	Thumb bruised badly; struck with hammer.
269	" 25....	"	" ...	M	20	Head cut, forehead bruised; struck by fellow workman with hammer, fell against flask.
327	Mar. 4....	"	" ...	M	49	Hole burned in white of eye, lower eyelid burned; struck by spark from track ladle.
339	" 10....	"	" ...	M	....	Badly bruised and collar-bone broken; floor collapsed.
347	" 10....	"	" ...	M	17	Instep bruised; gear wheel of mower fell, unloading truck.
359	" 14....	"	" ...	M	24	Small piece of steel entered and imbeded in eye.
387	" 21....	"	" ...	M	26	Palm and fingers burned; spoke turned in hand while being tenoned.
390	" 24....	"	" ...	M	23	Flesh of finger stripped to bone, two arteries severed; caught between head and crank of machine.
411	" 26....	"	" ...	M	26	Thumb and finger amputated, palm cut; on rip saw.
433	" 31....	"	" ...	M	....	Finger badly bruised; pressing wearing plate, lowered hammer on hand.
434	" 29....	"	" ...	M	21	Arm burned by steam arising from hot iron.

*Fatal.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer	Place	Sex of Injured Person	Age	Particulars
Dist. No. 5						
435	Mar. 31...	Frost & Wood Co.	Smith's Falls ...	M	....	Palm cut fitting knives to bars.
436	Apr. 1....	"	" ...	M	....	Hip bruised, shin wounded; carrying box of castings, stepped into hole in floor.
490	" 8....	"	" ...	M	50	Two bones in foot broken; lowering packing cases, one fell on instep.
508	" 12....	"	" ...	M	22	Hand cut, thumb lacerated, on cut off saw; board tipped up.
514	" 14....	"	" ...	M	22	Finger and phalanges bone bruised; unloading steel, caught between two bars.
525	" 18..	"	" ...	M	20	Two fingers amputated; slipped, threw hand against bull dozer.
561	" 23....	"	" ...	M	19	Abrasion and dislocated knuckle; caught between frame and truck handle.
572	" 15....	"	" ...	M	21	Cheek bruised; struck truck stake, elevator dropped.
573	" 19....	"	" ...	M	42	Instep and sole of foot bruised; truck of lumber ran over it.
574	" 15....	"	" ...	M	21	Knee-cap dislocated; ran truck on elevator when power was off, same dropped.
597	" 26....	"	" ...	M	35	Foot bruised, bones broken; plank fell.
663	May 10....	"	" ...	M	26	Burns around eyes, temple and arm; pouring hot iron, some flew up.
739	" 27...	"	" ...	M	21	Flesh stripped off finger joint; caught in gear.
774	June 2....	"	" ...	M	48	Hand cut, muscles bruised; rack gave way removing foot rests from it.
876	" 19....	"	" ...	M	44	Instep bruised; mower pole fell off truck on left foot.
877	" 23....	"	" ..	M	42	Cut between thumb and finger; jammed between truck handle and door jamb.
917	June 25....	"	" ...	M	54	Cut in palm; putting belt on with stick, same caught in pulley.
916	" 26....	"	" ...	M	42	Nail torn off and toe badly bruised; piece of pig iron fell off truck on foot.
964	July 4....	"	" ...	M	31	Toe bruised, instep inflamed; piece of pig iron fell on toe.
985	" 15....	"	" ...	M	51	Struck forehead on pipe; cut, severing small vein.
1006	" 17....	"	" ...	M	36	Badly bruised under eye, and cuts; repairing steam pipe, wrench slipped.
1063	" 25....	"	" ...	M	56	Head cut, point of shoulder bone broken, leg badly bruised; elevator fell with truck.
1145	Aug. 14....	"	" ...	M	30	Shin cut, vein ruptured; fell between car and building.
1146	" 14....	"	" ...	M	45	Foot injured; stepped on nail in board.
1147	" 11..	"	" ...	M	16	Top and nail of finger cut off; winding wire caught in kink.

1100	July 30....	"	" ...	M	43	Skin abrasion and bruise on leg; removing steel from rack, bar fell.
1415	Oct. 21....	"	" ...	M	26	Finger cut open to bone on drill; tool caught on casting.
836	June 16....	Gillies Bros.	Braeside	M	....	Foot crushed badly; hind wheel of lorry passed over it.
658	Sep. 29....	Hawkesbury Lum. Co.	Hawkesbury	M	43	Heel injured; caught between shaft and gear driven by friction.
659	Nov. 16....	"	"	M	35	Fingers cut on buzz planer.
660	Jan. 30....	"	"	M	45	Finger cut on buzz planer.
661	Mar. 13....	"	"	M	35	Back injured; fell into hole.
662	" 24....	"	"	M	60	Fingers cut on buzz planer.
1005	July 15....	"	"	M	17	Internal injuries; boards fell off lorry.
1036	" 19....	"	"	M	20	Facial bone fractured; loading timber, piece struck head.
1037	" 19....	"	"	M	29	Flesh wound; palm cut on buzz planer knives.
1384	Aug. 18....	International Marine Signal Co.	Ottawa	M	56	Ribs injured; drill table swung round pinning him between work and column.
676	May 15....	Ives Modern Bedstead Co. ..	Cornwall	M	17	Cut and bruised face; stretching bed springs which broke from fastenings.
872	June 19....	McGill Chair Co.	"	M	19	Minor cuts on hand; caught in twin saws.
1040	July 10....	"	"	M	40	Cord cut over finger on back of hand; operating lathe.
1174	Aug. 22....	"	"	M	30	Loss of part of index finger, one fractured, several cuts; operating shaper.
792	June 2....	Mortimer & Co.	Ottawa	M	15	Leg broken above ankle; caught foot in fly wheel of press.
762	Dec. 4 '12..	Munro & McIntosh	Alexandria	M	35	Loss of foot, crushed heel; breaking of cross-head of engine.
117	Jan. 20....	Ottawa Sanitary Laundry ...	Ottawa	M	17	*Was cleaning fluid from box containing gasoline, coal oil and water; overcome by fumes and fell in.
410	Mar. 27....	Pembroke Shook Mills.....	Pembroke	M	....	Loss of two fingers on rip saw.
1084	July 28....	Riordon Pulp & Paper Co. ..	Hawkesbury	M	25	*Leg amputated; got foot between gears of cross conveyor; died from shock and loss of blood.
1259	Sep. 2....	Rosamond Woolen Co.	Almonte	M	17	Running warp from mill to beamer, was rolled up with warp around beamer.
110	Jan. 31....	St. Lawrence Paper Mills Co..	Mille Roches	M	17	Hand and part of arm burned; caught between heated cylinder of paper machine and felt.
778	June 3....	" " ..	"	M	....	Bone in arm broken; handling roll of sulphite; slipped on floor.
1446	Oct. 27....	" " ..	"	M	17	Thumb torn off; winding rope around winder shaft; loop caught.
119	Jan. 16....	Smart Mfg. Co.	Brockville	M	34	Flesh gouged out of thumb; struck against sharp edge of iron.
298	Feb. 25....	"	"	M	25	Wrist sprained, forearm strained; rolling over floor mould.
372	Mar. 4....	"	"	M	30	Forearm strained, wrist sprained; slipped on ice in yard.
371	" 12....	"	"	M	16	Hand and body cut; finishing handled harness, finishing wheel broke.

*Fatal.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer	Place	Sex of Injured Person	Age	Particulars
Dist. No. 5						
370	Feb. 27....	Smart Mfg. Co.	Brockville	M	37	Foot badly bruised; jammed between truck and low platform.
369	Mar. 6....	"	"	M	18	Foot burned by molten metal; pouring moulds, iron ran over sides.
529	Apr. 8....	"	"	M	52	Hand lacerated; jammed between two moulds.
530	" 10....	"	"	M	60	Cut finger; knocking off casting from sprue; blood poisoning.
986	June 25....	"	"	M	15	Palm and fleshy part of hand lacerated; grinding drill caught between stone and frame, tearing drill from hand.
1413	Oct. 16....	Smith's Falls Malleable Castings Co.	Smith's Falls ...	M	....	Eye burned; using rusty rod to skim ladle of hot iron.
149	Dec. 23 '12..	Twice-A-Week News	" ...	M	14	Loss of four fingers; crushed in gordon press.
1409	Sep. 13....	Watchorn Co.	Merrickville	M	12¾	Arm broken, had to be amputated; trifling with small belt from shaft, was pulled around same.
Dist. No. 6						
345	Mar. 6....	Adams Wagon Co.	Brantford	M	....	Two fingers off, three cut; pulling shavings from tenon machine.
578	Apr. 25....	" "	"	M	27	Portion of finger taken off, second cut on shaper.
579	" 24....	" "	"	M	22	Lost fourth finger, two others cut; on spoke throater.
1105	Aug.	" "	"	M	20	Face cut; knife flew from lathe.
1308	Sep. 6....	" "	"	M	40	Finger bone broken; struck by hammer.
1379	Oct. 8....	" "	"	M	....	Flesh wound in palm; ran against shaper knives.
140	Jan. 17....	American Can. Co.	Hamilton	F	20	Working with cans; got acid into fingers.
305	Feb. 19....	" "	"	F	29	Was lifting box; got splinter of wood in finger.
447	Mar. 27....	" "	"	M	....	Shin barked, ankle sprained; crane fell over, allowing casting to fall.
501	" 31....	" "	"	M	18	Finger nail torn off; removing paper from die of stamping press.
516	Apr. 10....	" "	"	M	15	Nail torn off finger; got between rollers of tinplate cleaning machine.
668	May 9....	" "	"	M	65	Toe crushed; sawing iron, iron fell.
976	July 12....	" "	"	M	16	Piece off two fingers, one crushed; reaching for coat, put hand on die and touched trip.
1041	" 23....	" "	"	M	31	Piece off two fingers; removing tin from punch, punch came down.
1107	Aug. 7....	" "	"	M	17	Finger cut on seaming machine; jammed foot too hard on treadle.
1220	" 28....	" "	"	M	17	Strained shoulder and side; slipped off platform.
1221	" 27....	" "	"	M	17	Piece off thumb; bumping swivels, punch came down.

1357	Oct. 2....	" "	"	F	22	Hand injured; piling cans, ring caught in carriage of body machine.
1365	" 7....	" "	"	M	42	Bruised toes; barrel of oxide fell on foot.
1435	" 22....	" "	"	M	....	Palm severely cut on rough edges of tinplate sheets.
1396	" 13....	" "	"	M	....	Right index finger bumped off on stamping press.
1108	Aug. 1....	American Radiator Co.	Brantford	M	19	Amputation first phalange of finger; wheeling core plates, caught between plate and truck.
1182	" 25....	" "	"	M	19	Contused wound on foot; casting fell from pile.
1264	" 30....	" "	"	M	36	Crushed foot and toe; caught between elevator and floor of cupola.
1326	Sep. 25....	" "	"	M	21	Nail loosened, thumb smashed; rolling over mould, caught between sling and trunion.
1385	Oct. 10....	" "	"	M	19	Snovitis of knee; casting slipped.
329	Mar. 3....	Bain Wagon Co.	Woodstock	M	31	Lost end of thumb and two fingers on rip saw.
378	Dec. 15 '12.	" "	"	M	22	Fingers cut on double cut off saw.
483	Mar. 26....	Banwell Hoxie Wire Fence Co.	Hamilton	M	....	Cut round calf of leg; splicing wire, loop caught around leg.
760	May 23....	" " "	"	M	31	Hand cut; examining nuts on machine clutch wing.
853	June 13....	" " "	"	M	29	Scalp wound and slight concussion of brain; trolley jumped track, struck man on head.
1106	Aug. 1....	" " "	"	M	37	Two fingers slightly crushed; caught in shears.
456	Apr. 2....	Barber-Ellis Co.	Brantford	M	18	Thumb crushed, finger split open; on ending machine.
961	July 7....	M. Beatty & Son	Welland	M	25	Injured; drilling on frame, drill slipped and clothing caught.
57	Jan. 11....	Berlin Machine Works	Hamilton	M	29	Leg broken; moving machine, casting fell.
974	June 3....	" "	"	M	....	Three fingers badly cut; putting in centre table of planer. came in contact with revolving head.
975	" 26....	" "	"	M	27	Ankle dislocated; chipping inside of frame, casting fell.
1018	July 7....	" "	"	M	20	Finger cut; oiling job in facing machine.
1153	Aug. 11....	" "	"	M	22	Foot cut; taking belt tightener off, block fell, driving rod into foot.
25	Jan. 9....	John Bertram & Sons	Dundas	M	18	Hand cut on lathe; steel slipped, forcing hand back against knife tool.
123	" 4....	" "	"	M	19	Crushed finger; cleaning gear wheels, finger caught.
228	Feb. 18....	" "	"	M	21	Badly bruised; caught on lineshaft near circular saw.
276	" 12....	" "	"	M	17	Hand badly ground on emery wheel and vein severed.
293	" 26....	" "	"	M	26	Finger cut.
294	" 27....	" "	"	M	20	Foot bruised.
409	Mar. 26....	" "	"	M	45	Leg broken; pile of shafts fell over.
275	Feb. 11....	" "	"	M	60	Face badly bruised; hoist screw nut thread stripped, letting arm down suddenly.
263	"	Brantford Carriage Co	Brantford	M	....	Blood poisoning; knocked leg against axle.
1268	Sep. 11....	" "	"	M	....	Injured; pinned by elevator weight, was repairing elevator.
88	Jan. 24....	Brantford Cordage Co.	"	F	18	Fracture of elbow; loose apron caught in revolving shaft.
1183	Aug. 2....	E. A. Bryce	Springfield	M	50	Loss of three fingers; finger stall caught in moulder.
575	Apr. 12....	Buck Stove Co.	Brantford	M	40	Leg bruised; piece of iron rolled from pile.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer	Place	Sex of Injured Person	Age	Particulars
Dist. No. 6						
1342	Sep. 23....	Buck Stove Co.	Brantford.....	M	30	Foot crushed; pulled truck on foot.
1383	" 30....	" "	"	M	32	Foot burned; spilled iron from ladle.
254	Feb. 12....	Canada Cement Co.	Port Colborne ...	M	....	Two ribs fractured; door fell on him.
255	" 15....	" "	" " ...	M	....	Two ribs fractured; jumping on locomotive.
256	" 22....	" "	" " ...	M	....	Back of leg cut; detonating caps exploded.
950	June 19....	" "	" " ...	M	....	Leg amputated above knee; caught in screw conveyor.
1087	July 24....	" "	" " ...	M	....	Face burned; gas exploded, lighting jet.
1202	Aug. 26....	Can. Allis-Chalmers Shipyards Co.	Near Bridgeburg.	M	22	Head bruised, lacerated ear; putting chain on beam, beam slipped.
5	Dec. 24, '12.	Can. Cottons, Ltd.	Hamilton	M	28	Hand crushed between frame of loom and cam.
89	Jan. 15....	" "	"	F	24	Finger crushed in gears of loom.
569	Apr. 21....	" "	"	M	....	End of finger smashed; caught between crow bar and truck.
737	May 28....	" "	"	M	38	Thumb badly crushed in gears of picker; replacing sprocket chain.
738	" 26....	" "	"	M	16	Finger nipped between rolls of calender machine.
1031	July 21....	" "	"	M	28	Finger crushed in gears of waste baling press; putting grease on gears.
1313	Sep. 23....	" "	"	M	28	Bruised hand; cleaning speeder frame, balance weight on frame, fell.
1184	Aug.	Can. Porcelain Co.	"	M	....	Fell and fractured hip.
1089	July 24....	Can. Shredded Wheat Co....	Niagara Falls ...	M	....	Three fingers amputated by scroll conveyor on shredding machine; cleaning shredder and fell.
664	Apr. 28....	Can. Tungsten Lamp Co.	Hamilton	M	40	Finger taken off; fixing die in press, die came down.
665	May 12....	" "	"	M	25	Top of head and forehead cut; putting belt on machine in motion, pulled countershaft from ceiling.
1033	July 17....	" "	"	M	44	Smashed end of finger, cut thumb; brought die of power press down.
1081	" 30....	" "	"	M	32	Cut end off finger; slipped, put hand on die of press.
1301	Sep. 8....	" "	"	M	27	Nail torn off finger; caught under punch.
1363	Oct. 7....	" "	"	M	25	Thumb taken off; working on power press, caught under die.
218	Feb. 17....	Can. Westinghouse Co.	"	M	....	Loss of four fingers on punch press.
455	Apr. 1....	" "	"	M	....	End of finger off on power press.
735	May 27....	" "	"	M	....	Cuts and abrasions on head, back and leg; inspecting electric crane, received shock.
831	June 16...	" "	"	M	....	Ends of two fingers taken off; foot was on treadle of press.
685	May 14....	Can. Yale & Towne, Ltd.	St. Catharines..	M	44	Fractured thigh and minor bruises on elevator.
686	" 14....	" "	" ...	M	27	Shins bruised; careless handling of elevator.

687	"	14....	" "	" ...	M	21	Shock and concussion; careless handling of elevator.
688	"	14....	" "	" ...	M	35	Back bruised; careless handling of elevator.
1397	Oct.	14....	Dain M'fg. Co.	Welland	M	....	Hip bruised badly; fell from lumber pile.
1405	"	15....	" "	"	M	....	Arm bruised, wrist sprained; moving rollers under machine, arm caught.
162	Jan.	3....	J. W. Dalton	Stoney Creek ...	M	....	Arm bruised; sleeve caught on set screw.
94	"	19....	Diamond Flint Glass Co.	Hamilton	M	31	*Working in cellar, holding electric light in one hand and fire shovel in other, was found dead.
12	"	7....	Dominion Belting Co.	"	F	....	Bruised end of finger; operating sewing machine.
1080	July	30....	Dominion Canners Co.	Waterford	M	....	*Gasoline tank exploded.
914	June	27....	Ford-Smith Machine Co.	Hamilton	M	26	Emery wheel burst; struck man over eye.
729	May	23....	Frost Wire Fence Co.	"	M	45	Part of three fingers off; press repeated.
730	"	....	" "	"	M	25	Head cut; belt caught in shifter.
893	June	19....	" "	"	M	25	Scalp wound; gate fell over, knocking him on head.
1310	Sep.	17....	" "	"	M	25	Hand nearly severed at wrist; caught in wire while drawing it.
1311	"	22....	" "	"	M	29	Four fingers off; caught hand in wire.
51	Jan.	4....	W. T. Glover	Freeman	F	....	Injured; fell through trap door.
19	"	2....	Greening Wire Co.	Hamilton	M	30	Face burned by sulphuric acid.
239	Feb.	5....	" "	"	M	40	Hand cut between thumb and finger; spike slipped.
338	Mar.	10....	" "	"	M	60	Eye injured; repairing water pipe, fume deposit dropped from beam.
500	Apr.	11....	" "	"	M	15	Thumb cut; spooling wire broke and caught hand.
552	Apr.	19....	" "	"	M	15	Finger crushed; caught between guide shaft trusion bracket and bearing.
570	"	21....	" "	"	M	45	Forefinger jammed; putting pin in wire block, hand caught.
576	Mar.	3....	" "	"	M	28	Trucking wire; pulled truck over toes.
787	May	30...	" "	"	M	22	Lid of eye cut; handling coil of wire, end flew up.
828	June	12....	" "	"	M	16	Top of thumb and first joint of index finger severed; caught in bevel gear.
835	"	24....	" "	"	M	35	Right knee cut with rough edge of wire cloth.
1185	Aug.	23....	" "	"	M	30	Arm burned; straightening bar of hot iron.
1249	Sep.	6....	" "	"	M	17	Forearm cut and burned, ear cut; arm caught between belt and pulley.
1294	"	15....	" "	"	M	25	Finger cut by wire; wire kinked.
1406	Oct.	16....	" "	"	M	15	Eye struck by end of wire while spooling.
1407	"	18....	" "	"	M	16	Struck by recoil of end of wire rope.
1408	"	10....	" "	"	M	22	Finger bruised, nail torn off; cleaning lathe gears.
1410	"	10....	" "	"	M	43	Ankle burned; metal splashed, putting slab of zinc in galvanizing pot.
775	June	4....	Hamilton Bridge Works Co..	"	M	....	*Struck on head; jib crane fell.
289	Feb.	24....	Hamilton Cotton Co	"	F	22	Part of scalp torn off on drawing frames; was looking for roller that had dropped.

*Fatal.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer	Place	Sex of Injured Person	Age	Particulars
Dist. No. 6						
337	Mar. 11....	Hay & Co.	Woodstock	M	....	Scalded; slipped into steam vat.
379	" 19....	"	"	M	....	Thumb slightly cut on circular saw.
448	" 31....	Imperial Cotton Co.	Hamilton	F	....	Arm bruised; caught between belt and pulley of slubbing frame.
526	....	" "	"	F	....	Thumb bruised, causing blood poisoning; fell against fast running spindle frame.
638	May 8....	" "	"	M	....	Thumb cut, nail partly off; caught in set screw.
748	"	" "	"	F	....	Tips of finger off in gears.
884	June 25....	" "	"	M	....	Arm cut; driving iron stud with sledge hammer, stud flew up.
1095	Aug.	" "	"	F	....	Struck on head by shuttle from loom; heddle broke.
1267	Sep. 10....	" "	"	M	....	Contused head, cut cheek, knee hurt; scaffolding tilted.
199	Feb. 8....	Ingleby-Taylor Co.	Brantford	M	....	Hand lacerated in jointer; had to be amputated.
151	Jan. 7....	International Harvester Co...	Hamilton	M	42	Eye ulcerated; spark from emery wheel flew past glasses into eye.
152	" 10....	" " ..	"	M	19	Thumb lacerated on circular saw; had thumb over block too far.
153	" 11....	" " ..	"	M	30	Contused foot; piling crated drills, one fell.
154	" 14....	" " ..	"	M	22	Acute inflammation of eye; grinding at emery wheel, something flew into eye.
155	" 15....	" " ..	"	M	28	Foot burned; catching metal, some splashed into boot.
156	" 22....	" " .	"	M	30	Contused shoulder and clavicle; box of discs fell from pile.
157	" 22....	" " ..	"	M	26	Finger lacerated; casting doubled up under broacher.
158	" 23....	" " ..	"	M	45	Strained back severely; trying to move loaded truck.
159	" 25....	" " .	"	M	37	Tip of thumb off; fixing a blower.
160	" 28....	" " .	"	M	58	Contused side and ribs; struck by lumber from pile.
316	Feb. 25....	International Harvester Co. ..	Hamilton	M	25	Severe burns on legs and feet from hot metal.
317	" 25....	" " ..	"	M	28	Sever contusion and fracture of bone in foot; taking packer wheel from rattler, it fell.
318	" 21....	" " ..	"	M	35	Severe laceration of finger; tightening nut, finger struck corner of dies.
319	" 19....	" " ..	"	M	25	Right foot severely burned; catching iron from crane, some splashed into boot.
320	" 19....	" " ..	"	M	40	Thumb amputated; operating press.
321	" 18....	" " ..	"	M	....	Contused toe; unloading truck, gear wheel fell.
322	" 4....	" " ..	"	M	29	Side ruptured; turning a truck around.
323	" 5....	" " ..	"	M	38	Burn on top of foot; carrying ladle of iron, some splashed.
611	Mar. 5....	" " ..	"	M	36	Contusion of nose and eye; piece of scantling fell.
612	" 6....	" " ..	"	M	....	Tip off finger; removing timber from cut off saw.

613	" 4....	"	"	..	"	M	29	Lacerated fingers, contused groin; wood flew back from saw.
614	" 10....	"	"	..	"	M	26	Lacerated finger; plunger of press repeated.
615	" 14....	"	"	..	"	M	25	Arms burned; ignition of benzine.
616	Apr. 12....	"	"	..	"	M	28	Foot burned; iron splashed out of ladle.
617	" 18....	"	"	..	"	M	33	Fracture of humerus and femur; falling lumber.
618	" 24....	"	"	..	"	M	33	Feet burned; ladle overturned.
619	" 29....	"	"	..	"	M	17	Laceration and fracture index finger; taking stock from machine.
833	June 16....	"	"	..	Paris	M	21	Fracture of forearm; loaded truck tipped over, caught arm between two trucks.
895	" 27....	"	"	..	Hamilton	M	40	Two fingers amputated; caught under press.
896	" 25....	"	"	..	"	M	28	Amputation of fourth left finger; caught in spoke machine.
897	" 18....	"	"	..	"	M	33	Contused right toes; loading truck, same fell back on toes.
898	" 12....	"	"	..	"	M	28	Burned right foot; catching iron at furnace.
899	" 11....	"	"	..	"	M	16	Thumb lacerated; caught in threading machine.
900	11....	"	"	..	"	M	34	Severe laceration and fracture of right index finger; piece of scrap slipped.
901	" 9....	"	"	..	"	M	36	Contused right elbow; struck elbow on bench.
902	" 25....	"	"	..	"	M	37	Right foot burned; catching iron at furnace.
903	May 30....	"	"	..	"	M	32	Bruised and partly severed tendons of hand; jammed between annealing pot and truck handle.
904	" 7....	"	"	..	"	M	21	Contusion of right knee; ladder slipped, fell on cement floor.
905	" 3....	"	"	..	" ...	M	19	Wrist sprained and right elbow, contused thigh; overbalanced and fell.
1065	July 22....	"	"	..	Paris	M	34	Palm and thumb cut on jointer; piece kicked back.
1066	" 17....	"	"	..	" ...	M	39	Little finger split open; caught hand in rivetter.
1064	" 22....	Laidlaw Litho. Co.			Hamilton	M	19	Portion of arm amputated; hand crushed between cylinders of litho. press.
517	Apr. 11....	Lybster Paper Mills Co.			Merritton	M	60	Toe bruised; bumped against casting which fell over.
14	Dec. 3 '12..	McKinnon Dash Co.			St. Catharines ..	M	25	Body burned; tripped, iron from ladle hit wet ground.
40	Jan. 13....	"	"	.....	" ...	M	21	Hand bruised; caught between annealing pots.
54	" 16....	"	"	.....	" ...	M	21	Two fingers burned by molten metal.
103	" 25....	"	"	.....	" ...	M	16	Burn around eye; catching iron from ladle .
104	" 29....	"	"	.....	" ...	M	24	Piece of iron lodged in eye; grinding castings.
105	" 30....	"	"	.....	" ...	M	30	Arm bruised; sledge hammer missed rod, came down on arm.
106	" 23....	"	"	.....	" ...	M	24	Foot burned by metal from ladle.
107	" 17....	"	"	.....	" ...	M	50	Eye burned; by solution of potash, washing tank.
129	" 31....	"	"	.....	" ...	M	26	Foot burned; spilled iron from ladle.
169	Feb. 6....	"	"	.....	" ...	M	22	Struck in stomach; grinding castings, wheel broke.
176	" 8....	"	"	.....	" ...	M	25	Foot burned; metal splashed over side of ladle.
178	" 11....	"	"	.....	" ...	M	36	Toe crushed; annealing pot fell on foot.
179	" 8....	"	"	.....	" ...	M	25	Thumb bruised; let flask fall on hand.
226	" 16....	"	"	.....	" ...	M	24	Slight cut below eye; piece of iron flew up.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer.	Place	Sex of Injured Person	Age	Particulars
Dist. No. 6						
277	Feb. 24....	McKinnon Dash Co.	St. Catharines ..	M	25	Thumb cut; holding sheet steel under press.
278	" 26....	" "	" ...	M	20	Foot burned; iron flew from ladle.
324	Mar. 4....	" "	" ...	M	30	Hand bruised; fell, carrying bull ladle of iron.
325	" 4....	" "	" ...	M	25	Burn on left eye; hot sand flew into eye.
326	" 1....	" "	" ...	M	25	Finger crushed; removing piece of wood from between dies, end hammer came down.
342	" 10....	" "	" ...	M	25	Finger cut; carrying plate of cores, stumbled, cut finger on plate.
343	" 8....	" "	" ...	M	....	Cut in side of right eye; grinding piece of iron, piece flew into eye.
344	" 10....	" "	" ...	M	30	Foot burned badly; spilled metal from ladle.
373	" 18....	" "	" ...	M	25	Foot burned by hot metal; handle of ladle broke.
423	" 26....	" "	" ...	M	30	Foot burned; spilled iron from ladle.
424	" 20....	" "	" ...	M	25	Sprained knee; casting fell.
430	" 29....	" "	" ...	M	....	Top off finger; got under die of power press.
458	" 25....	" "	" ...	M	30	Arm bruised and cut; trying to fix drop hammer.
468	Apr. 4...	" "	" ...	M	23	*Leg broken, skull fractured, internal injuries; clothing caught in shafting.
484	" 4....	" "	" ...	M	....	Finger off; fixing dies in power press, hand got between dies.
487	Mar. 17....	" "	" ...	M	30	Cut corner of eye; dumping annealing pots, some of the filler flew up.
493	Apr. 2....	" "	" ...	M	35	Toe smashed; carrying pig iron weight, tripped.
502	" 10....	" "	" ...	M	20	Finger bruised; grinding casting, finger slipped on wheel.
503	" 11....	" "	" ...	M	26	Arm and body burned; stumbled, iron flew from ladle.
504	" 3....	" "	" ...	M	38	Knee bruised; let piece of iron fall.
505	" 11....	" "	" ...	M	30	Ankle sprained; carrying bundle of iron, turned over on foot some way.
515	Apr. 15....	" "	" ...	M	24	Arm burned; repairing furnace, rubbed hot bung.
546	" 17....	" "	" ...	M	26	Hand burned by acid; dipping castings.
608	May 1....	" "	" ...	M	20	Arm bruised; rubbed against fly wheel of press.
622	" 6....	" "	" ...	M	25	Ankle burned; spilled iron from ladle.
623	" 6....	" "	" ...	M	....	Foot burned; filling ladle at stream, spilled some.
624	" 3....	" "	" ...	M	30	Piece of emery in eye; grinding at wheels.
628	Mar. 6....	" "	" ...	M	22	Flesh and nail taken off finger; closing chain links, caught between links and die.
645	May 8....	" "	" ...	M	25	Chest bruised; wheeling barrow of castings, tripped and handle struck him.
689	" 14....	" "	" ...	M	25	Arm sprained; pushing barrow of iron, tripped.

690	"	13....	"	"	.....	"	...	M	40	Hand crushed between annealing pots.
743	"	28....	"	"	.....	"	...	M	28	Struck by piece of coal on thigh.
744	"	27....	"	"	.....	"	...	M	29	Foot burned; spilled iron from ladle.
731	"	21....	"	"	.....	"	...	M	20	Face burned; gas exploded, lighting ovens.
732	"	27....	"	"	.....	"	...	M	32	Eye burned; spilled iron.
733	"	27....	"	"	.....	"	...	M	21	Burn on arm; carrying iron, some splashed.
734	"	27....	"	"	.....	"	...	M	30	Foot burned; shifting mold, iron splashed.
771	"	31....	"	"	.....	"	...	M	29	Cut on top of head; piece of wood fell from pile.
765	"	28....	"	"	.....	"	...	M	30	Arm burned; tinning castings.
793	June	9....	"	"	.....	"	...	M	22	Foot scalded; hot iron tipped from ladle.
847	"	18....	"	"	.....	"	...	M	33	Leg and ankle burned; hot iron fell on it.
848	"	18....	"	"	.....	"	...	M	25	Foot burned; spilled iron from ladle.
873	"	20....	"	"	.....	"	...	M	15	Right breast grazed and slightly cut; fell upon emery wheel when in motion.
874	"	21....	"	"	.....	"	...	M	16	Index finger lacerated; grinding dashes, finger came in contact with emery wheel while in motion.
878	"	25....	"	"	.....	"	...	M	49	Hand lacerated; piece of scrap iron stuck into hand.
930	"	20....	"	"	.....	"	...	M	31	Piece of steel from emery wheel lodged in left eye.
936	July	3....	"	"	.....	"	...	M	24	Back burned; hot iron splashed.
945	"	5....	"	"	.....	"	...	M	20	Foot and leg burned by sulphuric acid; pail broke.
946	"	5....	"	"	.....	"	...	M	25	Forearm burned by iron from ladle.
947	"	5....	"	"	.....	"	...	M	32	Two fingers crushed in press.
948	"	7....	"	"	.....	"	...	M	39	Foot crushed; piece of pig iron fell.
949	"	7....	"	"	.....	"	...	M	24	Finger lacerated; crushed between lever and plate of hook-bending machine.
951	"	8....	"	"	.....	"	...	M	28	Foot burned by molten metal.
952	"	8....	"	"	.....	"	...	M	20	Finger smashed with raping bar.
983	June	9....	"	"	.....	"	...	M	30	Foot burned; pouring iron into mold.
984	July	14....	"	"	.....	"	...	M	22	Foot burned; carrying ladle of iron, spilled some.
1007	"	17....	"	"	.....	"	...	M	17	Finger lacerated; cutting piece of tin.
1008	"	17....	"	"	.....	"	...	M	23	Thumb lacerated by emery wheel.
1039	"	21....	"	"	.....	"	...	M	31	Foot burned; dumping iron into ladle.
1067	"	26....	"	"	.....	"	...	M	22	Hand injured; struck with hammer.
1068	"	16....	"	"	.....	"	...	M	30	Arm pricked by piece of iron, causing blood poisoning.
1069	"	26....	"	"	.....	"	...	M	23	Foot burned; man upset ladle of iron.
1109	"	28....	"	"	.....	"	...	M	48	Foot burned; dumping iron into ladle.
1119	Aug.	11....	"	"	.....	"	...	M	18	Ankle burned; iron spilled from ladle.
1151	"	16....	"	"	.....	"	...	M	21	Fell and hurt back slightly.
1157	"	19....	"	"	.....	"	...	M	35	Back of hand lacerated; cutting iron smoke stack with chisel, stack fell on hand.
1169	"	20....	"	"	.....	"	...	M	33	Face burned with sulphuric acid; emptying acid into pail.
1176	"	23....	"	"	.....	"	...	M	26	Arm severely scalded by steam from timber heating oven.
1170	"	20....	"	"	.....	"	...	M	20	Foot burned; metal jolted over top of ladle.

*Fatal.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer.	Place.	Sex of Injured Person	Age	Particulars
Dist. No. 6						
1209	Aug. 29....	McKinnon Dash Co.	St. Catharines ...	M	33	Slight burn on foot by sulphuric acid; cleaning vat, upset acid.
1265	Sep. 4....	" "	" ...	M	35	Blood poisoning caused by prick of pig iron.
1280	" 12....	" "	" ...	M	23	Left foot burned severely by hot iron.
1316	" 22....	" "	" ...	M	62	Ribs broken and cracked; inspecting sewer, fell on edge.
1317	" 20....	" "	" ...	M	29	Hand badly twisted; caught between polishing wheel and dash guard.
1340	" 26....	McKinnon Chain Co.		M	20	Thumb injured; jammed under power press.
1434	Oct. 22....	McKinnon Dash Co.	" ...	M	22	Foot crushed severely; piece of steel slipped from trench.
1323	Aug. 14....	Maple Leaf Rubber Co.	" ..	M	....	Finger crushed, had to be amputated; repairing calender friction clutch, caught in gears.
			" ...			
99	Jan. 21....	Massey-Harris Co.	Brantford	M	65	Scalp wound; struck on head by plank from lumber pile.
100	" 17....	" "	"	M	19	Flesh wounds on two fingers; on circular saw.
101	" 11....	" "	"	M	32	Finger broken; caught in spoke of wheel, boring out hub.
139	" 27....	" "	"	M	74	Slight abrasion on back of hand; struck against box.
196	Feb. 12....	" "	"	M	30	Broken wrist and flesh wound; got hand under belt of emery wheel.
284	" 19....	" "	"	M	45	Cut on forearm by sharp steel.
285	" 19....	" "	"	M	35	Bone in ankle broken; pulled packing case over on himself.
286	" 24....	" "	"	M	24	Leg fractured by overturning of truck of steel.
336	" 28....	" "	"	M	45	Leg and foot burned by molten iron.
528	Apr. 14....	" "	"	M	28	Finger bruised; struck by hammer.
673	" 30....	" "	"	M	30	Toe bruised; dropped piece of pig iron.
785	May 7....	" "	"	M	25	Fractured bone at ankle; going downstairs, caught foot.
920	June 17....	Massey-Harris Co.	Brantford	M	24	Abrasion of foot; crate fell against him.
1148	Aug. 14....	"	"	M	26	Flesh wound on neck; operating multiple punch, one broke.
1149	" 14....	"	"	M	25	Amputation of little finger; adjusting drop hammer.
1204	" 15....	"	"	M	25	Flesh wound on foot; cutting board with hatchet, allowed it to slip.
1205	" 18....	"	"	M	22	Crushed end of finger; lifting steel plate, let it fall.
1250	" 22....	"	"	M	23	End of finger crushed; caught in slot of drill spindle.
1368	Oct. 7....	"	"	M	25	*Caught in belt and wound around line shaft.
791	June	John Morrow Co.	Ingersoll	M	38	Head injured; countershaft operating machine broke.
108	Jan. 15....	National Steel Car Co.	Hamilton	M	....	Eyeball cut; chip of porcelain struck him.
109	" 6....	" "	"	M	....	Cheek and head cut; drill caught in piece of steel.
111	" 20....	" "	"	M	25	Foot punctured; stepped on piece of nail.
112	" 17....	" "	"	M	22	Lip cut; foundation of crane gave way, allowing piece of steel to knock him over.

113	" 21....	"	"	.....	"	.....	M	45	Foot punctured; stepped on a nail.
114	" 11....	"	"	.....	"	.....	M	....	Hand bruised; piece of timber fell on it.
115	" 16....	"	"	.....	"	.....	M	45	Foot bruised; piece of timber holding bolster broke, fell on foot.
126	" 24....	"	"	.....	"	.....	M	31	Foot bruised; piece of steel fell on it.
168	Dec. 31, '12	"	"	.....	"	.....	M	34	Foot cut; piece of steel fell.
193	Feb. 3....	"	"	.....	"	.....	M	27	Wrist cut; striking nail in board.
194	" 6....	"	"	.....	"	.....	M	28	Finger amputated; caught in jaws of rivetter.
221	" 10....	"	"	.....	"	.....	M	42	Piece of timber fell on foot, bruising toes.
222	" 12....	"	"	.....	"	.....	M	22	Leg bruised; struck by steel frame.
223	Jan. 29....	"	"	.....	"	.....	M	24	Septic poison; finger cut on sharp edges of steam hammer.
273	Feb. 9....	"	"	.....	"	.....	M	22	Cut under lower lip; struck by sledge hammer.
306	" 19....	"	"	.....	"	.....	M	45	Cheek bruised, eye inflamed; wooden wedge struck face.
307	" 25....	"	"	.....	"	.....	M	24	Deep cut in wrist; fell on steel turnings.
366	Mar. 8....	"	"	.....	"	.....	M	34	Leg grazed; fell against trestle.
367	" 13....	"	"	.....	"	.....	M	27	Top of finger crushed, caught in punch.
368	" 11....	"	"	.....	"	.....	M	25	Head cut, thigh bruised; fell from scaffold.
358	" 4....	"	"	.....	"	.....	M	43	Bruised elbow; fell from scaffold.
389	" 24....	"	"	.....	"	.....	M	35	Finger bruised; caught between beam and chisel bar.
394	" 18....	"	"	.....	"	.....	M	....	Punctured foot; stepped on nail.
416	" 21....	"	"	.....	"	.....	M	37	Ear and neck cut; storm blew in roof glass.
417	" 8....	"	"	.....	"	.....	M	30	Septic poison, finger cut; caught under car spring.
418	" 19....	"	"	.....	"	.....	M	22	Top of finger amputated; caught in machine.
419	" 21....	"	"	.....	"	.....	M	42	Hand punctured; struck against wire.
466	" 20....	"	"	.....	"	.....	M	....	Two bones broken; foot bruised, car end sill fell.
509	" 31....	"	"	.....	"	.....	M	40	Skull fractured, head cut; falling casting.
510	Apr. 1....	"	"	.....	"	.....	M	22	Two fingers crushed; caught between steel and roller.
511	" 1....	"	"	.....	"	.....	M	36	Punctured foot; stepped on nail.
518	" 8....	"	"	.....	"	.....	M	35	Finger punctured by sliver of steel.
547	" 10....	"	"	.....	"	.....	M	20	Hands burned by hot scale from rivets.
548	" 9....	"	"	.....	"	.....	M	34	Arm bruised; sleeve caught in reamer.
564	" 16....	"	"	.....	"	.....	M	25	Finger crushed; timber fell.
565	" 14....	"	"	.....	"	.....	M	20	Ankle bruised; steel plates slid.
566	" 11....	"	"	.....	"	.....	M	45	Hand strained; moving die, twisted hand.
567	" 7....	"	"	.....	"	.....	M	23	Hammer blistered hand; became septic.
568	" 11....	"	"	.....	"	.....	M	40	Head and hand cut, leg bruised; steel fell off plank.
639	" 25....	"	"	.....	"	.....	M	15	Wrist sprained; fell off wooden horse.
640	" 24....	"	"	.....	"	.....	M	27	Burns on arms and face; crane struck furnace, flames burst out.
641	" 16....	"	"	.....	"	.....	M	26	Thumb cut; struck hand with hammer.
642	" 18....	"	"	.....	"	.....	M	27	Arm bruised; small bone fractured; hammer struck arm.
643	" 18....	"	"	.....	"	.....	M	22	Top of finger crushed; caught under sill.
670	May 1....	"	"	.....	"	.....	M	30	Finger bruised; caught between reamer and brake beam.

*Fatal.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer.	Place.	Sex of Injured Person	Age	Particulars.
Dist. No. 6						
671	May 2....	National Steel Car Co.	Hamilton	M	35	Top of thumb crushed; caught under piece of steel.
683	" 8....	" "	"	M	25	Eyebrow cut; struck with hammer.
749	" 15....	" "	"	M	28	Cut finger; struck sharp edge of car frames.
750	" 19....	" "	"	M	26	Deep cut on finger; jammed between car frame and cut out.
776	" 23....	" "	"	M	25	Eyeball burned; grinding, hot dust struck eye.
777	" 26....	" "	"	M	20	Deep cut on head; struck by hatchet.
829	June 12....	" "	"	M	26	*Left arm torn out, chest and lung badly lacerated, head cut; oiling cog wheel.
850	" 5....	" "	"	M	28	Side of nose cut; struck by piece of rivet.
851	" 6....	" "	"	M	30	Foot and leg scalded; slipped off pipe into scalding water.
852	" 3....	" "	"	M	27	Top of foot bruised; load of steel came down on it.
955	" 28....	" "	"	M	25	Bruised side, cut over eye; fell off hydraulic press.
956	" 26....	" "	"	M	26	Thumb crushed; caught between stripper and steel.
957	" 28....	" "	"	M	35	Foot bruised; caught by lumber buggie wheel.
958	" 20....	" "	"	M	23	Cut lip; struck by plunger from air hammer.
959	" 23....	" "	"	M	28	Two fingers cut; caught between steel and rivetter.
960	" 25....	" "	"	M	21	Cut in leg; piece of steel fell off lorry.
1010	July 7....	" "	"	M	35	Foot bruised; scrap fell.
1011	" 8....	" "	"	M	25	Toe crushed; transfer buggy ran over foot.
1012	" 8....	" "	"	M	15	Eyeball bruised; nail flew up; possible loss of sight.
1013	" 8....	" "	"	M	25	Puncture of foot; caught under piece of steel.
1014	" 9....	" "	"	M	28	Head cut, back cut and bruised; brake rods fell off crane.
1015	" 10....	" "	"	M	25	Foot badly punctured; struck against sharp scrap.
1026	" 10....	" "	"	M	45	Burst and bruised fingers; caught under stripper.
1027	" 11....	" "	"	M	40	Top of finger crushed; caught under steel sill.
1051	" 17....	" "	"	M	....	Two fingers cut, another bruised; caught under side sill.
1052	" 17....	" "	"	M	27	Deep cuts on two fingers; struck against cut off saw.
1053	" 14....	" "	"	M	....	Deep cut in head; knocked down by hoist, struck rail.
1137	Aug. 5....	" "	"	M	28	Third finger bruised, fourth crushed; caught between shafting and cement base.
1138	" 5....	" "	"	M	....	Foot cut and bruised; caught in cog wheels on bulldozer.
1139	" 2....	" "	"	M	....	Finger lacerated; caught in hydraulic rivetter.
1140	July 29....	" "	"	M	30	Finger burst; struck by hammer.
1164	Aug. 6....	" "	"	M	25	Arm burned from hot scale.
1165	" 7....	" "	"	M	35	Hand and arm bruised; fell in pipe dust.
1166	" 13....	" "	"	M	27	Toe crushed, partly amputated; wheel fell.
1167	" 11....	" "	"	M	....	Groin bruised; wrench slipped off nut and struck him.
1092	July 21....	" "	"	M	25	Amputation of top of finger.

1251	Aug. 26....	" "	"	M	28	Leg cut; steel plate fell on leg.
1245	" 29....	" "	"	M	16	Toe crushed; dropped iron block.
1282	Sept. 6....	" "	"	M	25	Two fingers crushed; caught between bench and wall.
1283	Aug. 30....	" "	"	M	40	Hand burned touched hot rivet.
1298	Sept. 10....	" "	"	M	29	Deep laceration, thumb; caught between push rod and pinion.
1299	" 11....	" "	"	M	35	Toe fractured and lacerated; wrench struck toe.
1300	" 11....	" "	"	M	23	Wrist sprained; arch bar turned over.
1333	" 23....	" "	"	M	38	Cut and bruised shoulder; struck by steel from punching machine.
1334	" 19....	" "	"	M	19	Two fingers crushed; caught between steel and stripper.
1335	" 21....	" "	"	M	23	Thighs bruised; struck by chain.
1336	" 22....	" "	"	M	41	Foot bruised; car wheel fell.
1372	" 30....	" "	"	M	30	Arm fractured; caught between centre sills.
1373	" 25....	" "	"	M	20	Two fingers cut; caught under Z bar.
1392	" 28....	" "	"	M	30	Arm punctured; pieces of chisel lodged in arm.
1393	Oct. 1....	" "	"	M	38	Foot punctured; stepped on sharp piece of scrap.
1394	" 7....	" "	"	M	30	Finger caught under stripper and crushed.
1433	" 15....	" "	"	M	24	Knee punctured; piece of steel struck leg.
1451	" 17....	" "	"	M	26	Burst top of finger; caught under side sill.
783	May 19....	Norton Co.	Niagara Falls ..	M	....	Bruised about stomach; car door fell down.
116	Jan. 20....	Ontario Lantern & Lamp Co.	Hamilton	M	....	Flesh on palm torn and off little finger end by buffing wheel.
1343	Sep. 23....	Ontario Paper Co.	Thorold	M	30	Back broken; roll of paper fell on him.
1430	Oct. 23....	"	"	M	23	Loss of hand except thumb; caught between rolls on press.
677	May 14....	Oxford Knitting Co.	Woodstock	F	26	Incision of palm; cutting pile of cloth with knife.
1285	Sep. 13....	"	"	F	24	Amputation of tip of thumb; on cutting knife, piece of waste jerked finger under guard.
931	July 3....	Page Hersey Iron Tube & Lead Co.	Welland	M	19	*Found dead, adjusting lamps in cluster; supposedly due to electricity.
334	Mar. 1....	Paterson & Son Co.....	Brantford	M	....	Thumb split and nail torn off; caught in gears of cutting machine.
1217	Aug. 20....	"	"	M	....	Two fingers crushed in roller of brake.
1213	" 14....	Penmans, Ltd.	Paris	M	14	Head crushed by elevator; peered down shaft.
295	Feb. 28....	Pratt & Whitney Co.....	Dundas	M	17	Foot bruised; steel bushling fell on it.
1437	Oct. 27....	Polson Iron Works, Ltd.....	Toronto	M	42	Face cut; oak wedge flew from back of saw.
225	Feb. 20....	Riordon Pulp & Paper Co...	Merritton	M	....	Arm broken; hand caught between belt and revolving pulley.
437	Mar. 21....	" " ...	"	M	....	Leg broken; brick wall blew in; jumped to roof.
438	" 21....	" " ...	"	M	....	Cut on head; toe jammed; struck by falling bricks; wall fell in.
299	" 3....	Sawyer-Massey Co.	Hamilton	M	17	Loss of three fingers; crushed in gearing of Bertram lathe.

*Fatal.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer.	Place.	Sex of Injured Person	Age	Particulars.
Dist. No. 6						
300	March 3..	Sawyer Massey Co.	Hamilton	M	23	Point of finger caught in emery wheel and ground off.
969	June 27....	"	"	M	39	Points of fingers cut; came in contact with knives of machine.
1152	Aug. 11....	"	"	M	50	Ends of three fingers and thumb cut on rip saw.
3	Dec. 27, '12	Steel Co. of Canada	"	M	35	Thumb crushed; shearing, caught between pipe and guard.
4	Jan. 2....	" "	"	M	26	Piece of pipe fell on foot, bruising it.
22	" 6....	" "	"	M	....	Hand burned came in contact with hot bar.
23	" 7....	" "	"	M	30	Eyelid cut; fell, striking piece of iron on truck.
43	" 14....	" "	"	M	19	Shock; casting rolled on him.
44	" 13....	" "	"	M	35	Thumb smashed shearing billets, hand was carried under guard.
45	" 16....	" "	"	M	23	Eye burned by piece of steel; cutting axle.
46	Dec. 27, '12	" "	"	M	50	Knee cap displaced; carrying roll in mill.
47	" 11....	" "	"	M	27	Three fingers crushed; hooking dogs on slag box, caught between dogs and box.
58	" 23....	" "	"	M	....	Head cut, resulting in blood poisoning.
59	Jan. 7....	" "	"	M	....	Cut leg; let bar of pig iron fall.
60	" 4....	" "	"	M	....	Thumb smashed; shearing billets, caught between billet and guard.
61	Jan. 25....	" "	"	M	35	Ankle sprained; getting off ladder, stepped on scrap wrench which rolled.
62	" 22....	" "	"	M	36	Foot pierced; by piece of scrap.
63	" 27....	" "	"	M	25	Crushed two fingers between piece of pig iron and charging box.
127	" 18....	" "	"	M	19	Foot bruised; short ingot slipped on foot.
128	" 27....	" "	"	M	30	Foot bruised; axle fell on it.
146	Feb. 2....	" "	"	M	30	Foot scalded by steam from hot ingot.
161	" 6....	" "	"	M	20	Concussion; knocked side of head against pipes, and fell.
164	" 5....	" "	"	M	24	Two toes smashed; bloom fell on foot.
165	" 5....	" "	"	M	45	Back and side bruised; rims of tongs swung round and hit him.
166	" 6....	" "	"	M	27	Finger bruised.
171	" 4....	" "	"	M	....	Hand bruised; bar of iron fell.
173	" 7....	" "	"	M	26	Chest bruised; jammed between load on crane and wall of truck.
174	" 6....	" "	"	M	31	Wrist cut, side bruised; struck by saddle.
208	" 8....	" "	"	M	27	Toes cut and bruised; putting muck mill shear ram together, piece rolled on foot.
209	" 7....	" "	"	M	25	Big toe smashed; let bar of iron fall.

210		8....	"	"	.....	"	.....	M	25	Burns on head and arms; breaking cinder, it exploded.
211	"	14....	"	"	.....	"	.....	M	27	*Crushed about the hips; jammed by engine against gang plank and car.
212	"	15....	"	"	.....	"	.....	M	26	Face badly burned by gas flame.
213	"	15....	"	"	.....	"	.....	M	52	Muscles of leg jammed; caught in cable.
234	"	18....	"	"	.....	"	.....	M	33	Index finger pulled out of socket; attending to pump, caught short arm.
235	"	17....	"	"	.....	"	.....	M	41	Little finger cut; loading blooms, struck against car.
236	"	17....	"	"	.....	"	.....	M	22	Foot bruised; wheeling buggy, got in front of wheel.
237	"	18....	"	"	.....	"	.....	M	....	Finger cut; let bar fall.
238	"	20....	"	"	.....	"	.....	M	24	Overcome by gas; repairing furnace.
249	"	23....	"	"	.....	"	.....	M	40	Burned eye and arm with molten iron.
250	"	22....	"	"	.....	"	.....	M	35	Hot cinder flew in eye; placing blooms in front of ram.
251	"	23....	"	"	.....	"	.....	M	27	Leg broken; pipe fell, causing compound fracture.
252	"	23....	"	"	.....	"	.....	M	29	Burned and cut face with molten metal.
265	"	24....	"	"	.....	"	.....	M	19	Wrist sprained; fell off truck.
266	Jan.	10....	"	"	.....	"	.....	M	28	Thumb crushed; loading iron on truck, piece slipped.
270	Feb.	13....	"	"	.....	"	.....	M	32	Finger crushed; got jammed, charging clay gun.
291	Jan.	25....	"	"	.....	"	.....	M	19	Cut leg against steel bolts.
297	Feb.	2....	"	"	.....	"	.....	M	30	Foot badly bruised; let piece of pig iron fall.
302	Mar.	5....	"	"	.....	"	.....	M	41	Foot crushed; steel casting fell off machine.
303	Mar.	5....	"	"	.....	"	.....	M	35	Finger lacerated; piece of pig iron fell.
333	"	7....	"	"	.....	"	.....	M	27	Broken nose; struck by handle of derrick.
365	Feb.	15....	"	"	.....	"	.....	M	19	Burned about mouth by gas flames.
374	Mar.	14....	"	"	.....	"	.....	M	40	Scalp wound; die block flew off punch machine and struck head.
364	"	15....	"	"	.....	"	.....	M	36	Back bruised; foot caught in steel plate and he fell on block.
420	"	28....	"	"	.....	"	.....	M	....	Eye cut near sight; struck by chip off steelhammer.
431	"	30....	"	"	.....	"	.....	M	28	Cut on head; struck by bucket and knocked off platform.
432	Feb	27....	"	"	.....	"	.....	M	25	Ankle scalded.
449	Mar.	26....	"	"	.....	"	.....	M	22	Finger lacerated; carrying jack, slipped and jack fell on hand.
457	Apr.	2....	"	"	.....	"	.....	M	24	Thumb and finger smashed; between loop of chain and steel billet.
469	"	4....	"	"	.....	"	.....	M	30	Scraped and bruised shin; fell off gangway.
480	"	5....	"	"	.....	"	.....	M	34	Tip of thumb smashed; shearing scrap, piece turned up.
488	"	6....	"	"	.....	"	.....	M	25	Scalp wound; changing rolls, block of roll fell from hook carrier.
489	"	8....	"	"	.....	"	.....	M	32	Cut over eye; struck by brick.
492	"	9....	"	"	.....	"	.....	M	28	Compound fracture of leg; turtle slid over catching leg.
532	"	15....	"	"	.....	"	.....	M	60	Toe bruised; unloading coal, lump rolled.
533	"	15....	"	"	.....	"	.....	M	25	Toe injured; unloading cop piles, one fell.
534	"	18...	"	"	.....	"	.....	M	30	Arms and body burned; bar of hot iron fell on him.

*Fatal.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer.	Place.	Sex of Injured Person	Age	Particulars.
Dist. No. 6						
535	Apr. 18....	Steel Co. of Canada.....	Hamilton	M	30	Toe broken; grinding billet, same slipped.
536	" 16....	" "	"	M	28	Bruised knee, cut artery; caught between charging buggies.
586	" 23....	" "	"	M	25	Hand burned; charging furnace with half axles, hand pulled in.
587	" 23....	" "	"	M	35	Eye burned; washing steel bloom, flash of cinder flew.
588	" 24....	" "	"	M	36	Cut and bruises on head; struck by steel from shears.
667	May 3....	" "	"	M	32	Face and hands burned; taking cover off hopper, flames of gas flew out.
669	" 11....	" "	"	M	40	Foot crushed; pushing loaded buggie, which ran over foot.
716	" 23....	" "	"	M	38	Torn finger; feeding shears with scrap, caught between bar and side of machine.
746	" 28....	" "	"	M	19	Burns and cuts; working angles, bars looped over pinning him to floor.
766	June 2....	" "	"	M	25	Compound fracture of forearm; arm carried around bar twisting machine.
772	May 30....	" "	"	M	21	Finger cut; taking scrap from shears, piece fell on hand.
801	Apr. 13....	" "	"	M	25	Collar bone fractured; fell off plank.
839	June 9....	" "	"	M	35	Cut little finger on saw.
840	" 16....	" "	"	M	32	Thumb crushed badly; cutting piece of scrap, end turned up against shears.
841	May 29....	" "	"	M	36	Foot bruised badly; piece of iron rolled on it.
842	June 14....	" "	"	M	51	Right foot crushed; piece of steel bloom fell.
855	" 19....	" "	"	M	....	Big toe smashed; unloading bloom, one rolled on foot.
894	"	" "	"	M	57	Back bruised, knee twisted; billet from pile swung around striking him.
915	June 24....	" "	"	M	42	Arms and legs badly bruised; arm caught in spindlers; whirled around shaft.
923	" 29....	" "	"	M	28	Piece of steel cut right eye.
924	" 6....	" "	"	M	20	Steam of hot steel blew up and burnt him.
970	July 8....	" "	"	M	....	Cheek cut and bruised; turning blooms in furnace, struck by hook.
971	June 29....	" "	"	M	22	Badly sprained wrist; arm struck car.
980	" 19....	" "	"	M	26	Cut on thumb; loading scrap iron.
1070	July 19....	" "	"	M	55	Knee and shoulder injured; tripped over ladle.
1071	" 16....	" "	"	M	35	Bruised shin, causing blood poisoning.
1072	" 26....	" "	"	M	32	Lacerated toe; bar fell on foot.
1077	" 28....	" "	"	M	35	Bruised and cut shoulder; nozzle on hose flew back, knocked on platform.
1078	" 29....	" "	"	M	25	First joint of finger torn off; let end iron plate fall.

1110	Aug.	3....	"	"	.....	"	.....	M	....	Finger smashed; lifting axles, one fell.
1113	"	7....	"	"	.....	"	.....	M	25	Toe bruised and cut; placing bars on hot bed near shears, one fell on foot.
1122	July	25....	"	"	.....	"	.....	M	50	Lacerated cut on arm; blood poisoning; fell on piece of scrap.
1162	Aug.	19....	"	"	.....	"	.....	M	42	Finger badly lacerated; cutting lengths from rods on shears, hand slipped.
1206	"	23....	"	"	.....	"	.....	M	....	Leg bruised; breaker fell.
1207	"	26....	"	"	.....	"	.....	M	28	Compound fracture of leg; engine lunged forward.
1218	"	29....	"	"	.....	"	.....	M	26	Finger smashed; caught between two blooms.
1219	Sep.	1....	"	"	.....	"	.....	M	....	Body and legs scalded by steam from hose.
1223	Aug.	28....	"	"	.....	"	.....	M	38	Fracture of forearm, nose broken; loading bars, fell into dock.
1224	"	29....	"	"	.....	"	.....	M	18	Compound fracture of arm; got under shear leaves.
1225	"	27....	"	"	.....	"	.....	M	30	Burn and cut on arm and side; fell and was struck by bar from rolls.
1235	Sep.	1....	"	"	.....	"	.....	M	20	Toes bruised; wheel of buggy passed over foot.
1246	"	6....	"	"	.....	"	.....	M	34	Cut on back of hand; struck against billets.
1247	"	5....	"	"	.....	"	.....	M	24	Toes smashed; pushing buggy, got foot in front of wheels.
1248	"	5....	"	"	.....	"	.....	M	24	Back scalded; fell backwards into hot water.
1324	"	7....	"	"	.....	"	.....	M	....	Leg fractured; taking bricks off pile, one fell.
1325	"	23....	"	"	.....	"	.....	M	.. .	Fleshy part of thumb jammed off; piece of rail fell on fingers.
1353	"	24....	"	"	.....	"	.....	M	40	Leg bruised badly; bridge plate turned over.
1354	"	29....	"	"	.....	"	.....	M	23	Palm cut; cutting scrap, pressure of shears knocked end into hand.
1355	"	30....	"	"	.....	"	.....	M	....	Bruise on toe; billet slipped off foot.
1356	"	29....	"	"	.....	"	.....	M	....	Eye burned; cinder flashed from roughing rolls.
1358	Oct.	3....	"	"	.....	"	.....	M	38	Chipping casting; piece of steel flew into eye.
1411	"	16....	"	"	.....	"	.....	M	30	Fracture of forearm; shovel caught against hard substance.
1438	Oct.	22....	"	"	.....	"	.....	M	44	Shoulder burned, cut and burn on foot; struck by bar from stand.
1452	"	22....	"	"	.....	"	.....	M	....	Ankle broken; angle rolled against leg, knocking him off pile.
1453	"	27....	"	"	.....	"	.....	M	40	Flash in eye from emery wheel.
1454	"	30....	"	"	.....	"	.....	M	25	Contused wounds on back, slight fracture of scupula; struck by piece of steel from shears.
1297	Sep.	17....	"	"	.....	"	.....	M	31	Burned on back and limbs by hot steel.
257	Feb.	24....	Steel & Radiation Co.		.....	St. Catharines	.....	M	45	Compound fracture of leg; run over by yard engine.
260	"	26....	"	"	.....	"	.....	M	36	Arm bruised; casting slipped.
261	"	26....	"	"	.....	"	.....	M	15	Thumb cut; caught between wire handle on air hoist and beam.
262	"	26....	"	"	.....	"	.....	M	21	End of thumb cut; came in contact with circular saw.
41	Jan.	14....	"	"	.....	"	.....	M	30	Palm cut; chisel slipped.
					.....	"	.....	M	41	Fell and skinned back of hand.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer.	Place.	Sex of Injured Person	Age	Particulars.
Dist. No. 6						
42	Jan. 11....	Steel & Radiation Co.	St. Catharines....	M	26	Toe broken; piece of shafting fell off bench.
55	" 14....	" "	"	M	19	Got chip of iron in eye.
220	Feb. 18....	" "	"	M	34	Radiator fell on foot, crushing nail.
396	Mar. 25....	" "	"	M	35	Cut over eye, cheek and hand bruised; fell over flask.
414	" 28....	" "	"	M	32	Finger crsuhed; placing flask on moulding machine.
888	June 26....	" "	"	M	26	Thumb and little finger cut on planer.
666	May 10....	" "	"	M	34	Bruised abdomen; iron flesk fell.
694	" 20....	" "	"	M	28	Jaw cut, tooth knocked out; casting on test burst.
773	" 30....	" "	"	M	26	Foot burned; hot iron fell.
806	June 11....	" "	"	M	35	Side bruised and injured; fell over pile of radiator flasks.
1032	July 21....	" "	"	M	20	Back burned; spattering of hot iron.
1038	" 22....	" "	"	M	16	Foot badly burned; spilled hot iron.
1079	" 30....	" "	"	M	....	Foot cut; ran wire into it.
1114	Aug. 11....	" "	"	M	22	Arm cut and side bruised; reaching between guard and emery wheel.
1136	" 14....	" "	"	M	26	Face, arm and leg burned, also shock; fell inside of cupola.
1155	" 19....	" "	"	M	30	Feet scalded; stepped into hot sand and water.
1177	" 22....	" "	"	M	30	Eye burned; hot iron flew from riser.
1227	Sep. 2....	" "	"	M	25	Foot burned; spilled iron.
1284	" 17....	" "	"	M	33	Toes injured; sling on hoist slipped.
1322	" 25....	" "	"	M	27	Feet burned; ladle turned over.
1395	Oct. 14....	" "	"	M	22	Nail and end of finger ground off; came in contact with emery wheel.
1185	Aug. 19....	Thomas Organ & Piano Co....	Woodstock	M	....	Loss of part of finger; taking stock from planer.
770	May 31....	Waterous Engine Works Co..	Brantford	M	35	Hand cut and bruised; slipped and caught in fan.
856	June 12....	" " " ..	"	M	42	Foot bruised badly; pulley fell.
1341	Sep. 30....	" " " ..	"	M	27	*Concussion of brain; fell from crane to floor.
1391	Oct. 10....	" " " ..	"	M	33	Leg cut, bone broken; eye bolt broke, tank dropped.
524	Apr. 9....	Watson M'fg. Co.	"	M	....	Body cut; came in contact with circular cutting knife.
Dist. No. 7						
69	Jan. 17....	Acton Tanning Co.	Acton West	M	....	Foot scalded; stepped into manhole at back of boiler.
2	Dec. 23, '12.	Algoma Steel Co	Sault Ste. Marie..	M	....	Scalp cut, hip bruised; fell through slag hole.
6	Oct. 29....	" "	" " ..	M	23	Hand cut; fell on scrap.
10	Dec. 26....	" "	" " ..	M	....	Two fingers lacerated; jammed between two buggies.
11	" 27....	" "	" " ..	M	22	Foot bruised; let rail fall.
7	Jan. 2....	" "	" " ..	M	....	Head cut; struck by tongs of crane, knocked into scale pit.
71	" 3....	" "	" " ..	M	....	Scrap fell on toes, jamming them.
72	Dec. 20, '12.	" "	" " ..	M	18	Eye cut; binding armature, wire broke.

73	Jan.	10....	"	"	.....	"	"	..	M	31	Right leg broken, left bruised; coupling of car glanced.
74	"	5....	"	"	.....	"	"	..	M	19	Finger cut; piling rails, struck sharp burr.
75	"	4....	"	"	.....	"	"	..	M	34	Fingers severely bruised; on punching machine.
76	"	10....	"	"	.....	"	"	..	M	38	Finger bruised; piece of shafting fell.
77	Nov.	3....	"	"	.....	"	"	..	M	30	Bath jumped track at spiegel cupolas, burning toes.
78	Jan.	8....	"	"	.....	"	"	..	M	....	Breast burned; leaned against car, putting cinder in car.
79	"	14....	"	"	.....	"	"	..	M	33	End of fingers taken off; hooking rails, caught between two.
80	"	26....	"	"	.....	"	"	..	M	35	Eye burned; patching vessels, hit by hot stuff.
81	Nov.	18....	"	"	.....	"	"	..	M	....	Toes crushed; car ran over foot.
82	Jan.	25....	"	"	.....	"	"	..	M	33	Finger crushed; putting nut on valve, same slipped.
83	"	20....	"	"	.....	"	"	..	M	19	Shoulder bruised; came in contact with live wire.
84	"	21....	"	"	.....	"	"	..	M	18	Hand burned; putting in electric switch.
131	"	22....	"	"	.....	"	"	..	M	....	Bruised ribs and back strained; fell off car.
132	"	29....	"	"	.....	"	"	..	M	32	Foot off at ankle joint; run over by locomotive.
133	"	30....	"	"	.....	"	"	..	M	25	*Crushed in chest and killed; stepped in between two cars to fix break chains.
134	"	23....	"	"	.....	"	"	..	M	18	Wrist burned; tending salamanders.
135	"	24....	"	"	.....	"	"	..	M	29	Severe cut and bruise on thumb; got under cross head of planer, putting belt on pulley.
136	"	22....	"	"	.....	"	"	..	M	19	Face cut; piece of wood struck head.
163	Feb.	2....	"	"	.....	"	"	.	M	18	Fingers cut; came in contact with rip saw.
172	Jan.	30....	"	"	.....	"	"	..	M	28	Forehead cut slightly; piece of broken mould hit head.
187	Feb.	2....	"	"	.....	"	"	..	M	....	Hand cut; jammed against car.
188	"	1....	"	"	.....	"	"	..	M	36	Eye injured; clipping rails, piece of steel struck eye.
189	"	2....	"	"	.....	"	"	..	M	....	Scalded by steam; arising from quenching of hot coke.
190	Jan.	31....	"	"	.....	"	"	..	M	30	Ankle hurt; dumping scale, scale box slid over.
202	Feb.	13....	"	"	.....	"	"	..	M	41	Leg fractured; struck by ore bucket.
203	"	2....	"	"	.....	"	"	..	M	31	Back strained; lifting piece of steel.
204	Oct.	26....	"	"	.....	"	"	..	M	21	Finger bruised; rail to be sheared turned over on hand.
205	Feb.	3....	"	"	.....	"	"	..	M	34	Eyelid blistered; thawing out air piping, fire flared up.
206	Jan.	31....	"	"	.....	"	"	..	M	....	Arm burned by steel in shoot; moving shoot away from furnace.
207	Feb.	1....	"	"	.....	"	"	..	M	28	Finger broken; tripped on rail and fell.
229	"	7....	"	"	.....	"	"	..	M	42	Hand cut; pulling up rails level, caught between two.
230	"	6....	"	"	.....	"	"	..	M	28	End of toe off, three crushed; pulling crop end from saw, same fell on foot.
231	"	5....	"	"	.....	"	"	..	M	....	Ankle badly bruised; caught between two blooms.
232	"	9....	"	"	.....	"	"	..	M	21	Chin bruised; loading rails, wrench flew up.
242	Nov.	27....	"	"	.....	"	"	..	M	35	Chest bruised, ribs injured; fell off engine.
243	Feb.	2....	"	"	.....	"	"	..	M	....	Bad sprain; coming out of gas tunnel, wrenched knee.
244	"	5....	"	"	.....	"	"	..	M	28	Nail taken off; finger caught in eccentric slipper.
245	"	12....	"	"	.....	"	"	..	M	....	Knee sprained; fell in pit at roundhouse.
246	"	14....	"	"	.....	"	"	..	M	18	Muscle of arm ruptured; pulled controller over.

*Fatal.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer.	Place.	Sex of Injured Person	Age	Particulars.
Dist. No. 7						
271	Feb. 15....	Algoma Steel Co.	Sault Ste. Marie..	M	45	Hand bruised and small cut; knocked down by loaded cars
272	" 22....	" " "	" " ..	M	55	Ribs fractured; fell down cellar stairs.
279	" 16....	" " "	" " ..	M	....	Finger burned; fell with hand on hot rail.
280	" 18....	" " "	" " ..	M	....	Hands burned; fell on hot guard rail, crossing over bloom table.
281	" 18....	" " "	" " ..	M	32	Toes smashed; piece of pig iron fell on foot.
282	" 17....	" " "	" " ..	M	29	Eye burned; hot metal splashed.
283	" 14....	" " "	" " ..	M	....	Hips and back bruised; jammed between furnace and blooms.
290	" 25....	" " "	" " ..	M	24	Leg broken; caught between car and coupling, car missed coupling.
308	" 19....	" " "	" " ..	M	20	Foot bruised, toe crushed; putting iron in mixer furnace; charger ran over foot.
309	" 22....	" " "	" " ..	M	37	Stocking rails, hook slipped and rail struck leg.
310	" 18....	" " "	" " ..	M	27	Hands burned; tapping out furnace; steel splashed.
311	" 11....	" " "	" " ..	M	40	Leg crushed; loading buggies, scrap fell.
312	" 18....	" " "	" " ..	M	30	Toes bruised; let bearing fall on foot.
313	" 16....	" " "	" " ..	M	45	Fingers burned; fell with hand on hot guard rail.
314	" 26....	" " "	" " ..	M	....	Hip bruised; fell on pile of rails.
330	" 25....	" " "	" " ..	M	....	Leg crushed; hooking on ball, it slipped, rolling against leg.
348	Jan. 13....	" " "	..	M	....	Eye hurt; loading buggy, piece of spiegel struck eye.
349	Mar. 2....	" " "	" " ..	M	28	Thumb crushed; caught between two rails.
350	" 3....	" " "	" " ..	M	....	Wheeling castings, slipped and wrenched ankle.
351	Feb. 27....	" " "	" " ..	M	23	Chest and foot bruised; knocked coke guide over.
352	Sep. 17....	" " "	" " ..	M	....	Finger bruised; loading rail scrap into charging pans, caught finger in seive.
353	Feb. 12....	" " "	" " ..	M		Struck in jaw with rail wrench.
354	" 28....	" " "	" " ..	M	30	Little finger crushed; caught between two rails.
360	Mar. 4....	" " "	" " ..	M	38	Bruised thumb; handling boiler plates.
361	" 7....	" " "	" " ..	M	....	Foot crushed; piling rails, one dropped.
362	" 7....	" " "	" " ..	M	....	Hand burned; loading cinder vessel, cinder splashed, hitting hand.
384	" 11....	" " "	" " ..	M	....	*Ice fell from roof of finishing mill, striking head.
385	" 10....	" " "	" " ..	M	....	Thumb caught between two rails, end crushed.
386	" 20....	" " "	" " ..	M	....	Arm torn out; caught belt and pulley.
397	Sep. 9, 12..	" " "	" " ..	M	34	Guide rail fell on toe, bruising it.
398	July 1, 12..	" " "	" " ..	M	26	Shoulder hurt; fell on street car track.
399	Mar. 7....	" " "	" " ..	M	28	Cutting off rivets; piece of steel lodged in eye sight.
400	" 8....	" " "	" " ..	M	34	Face and hands burned, tapping heat.

401	"	17....	"	"	"	.....	"	"	..	M	23	Two fingers cut; rail dropped on hand.
402	"	8....	"	"	"	.....	"	"	..	M	53	Muscles in leg strained; hauling load of castings.
403	"	12....	"	"	"	.....	"	"	..	M	22	Bruised and cut head; caught between furnace and shoot.
404	"	11...	"	"	"	.....	"	"	..	M	19	Thigh bruised; centre heart of melting machine fell.
405	"	5....	"	"	"	.....	"	"	..	M	34	Foot scalded by hot liquor; core of cock flew out.
406	"	19....	"	"	"	.....	"	"	..	M	....	Fingers badly smashed; got hand in coupling of cars.
407	"	19....	"	"	"	.....	"	"	..	M	....	Finger smashed; hooking chain on ladle.
408	"	18....	"	"	"	.....	"	"	..	M	34	Bruised hip; fell off plank.
446	"	30....	"	"	"	.....	"	"	..	M	63	Leg broke; coke pile gave way, falling against leg.
460	"	24....	"	"	"	.....	"	"	..	M	34	Bruised knee; fell in engine pit.
461	"	23....	"	"	"	.....	"	"	..	M	36	Finger crushed; feeling cross head of engine.
462	"	22....	"	"	"	.....	"	"	..	M	30	End of two fingers pinched on cross head of engine.
463	"	25....	"	"	"	.....	"	"	..	M	28	End of thumb crushed; caught between rail and roller.
464	"	26....	"	"	"	.....	"	"	..	M	38	Stepped on board with nail in it.
465	"	21....	"	"	"	.....	"	"	..	M	....	Toe bruised; unloading cobbles, one fell on foot.
486	Apr.	8....	"	"	"	.....	"	"	..	M	40	*Crushed about lower part of body; caught between wall and counterweight.
507	Mar.	31....	"	"	"	.....	"	"	..	M	50	Foot bruised; moving plates, caught between two.
520	Jan.	25...	"	"	"	.....	"	"	..	M	....	Hand cut; fell into crop end pan.
521	Mar.	2....	"	"	"	.....	"	"	..	M	....	Leg hurt; repairing pan.
537	Apr.	9....	"	"	"	.....	"	"	..	M	....	Eye hurt; clipping brass, piece flew in eye.
538	Mar.	5....	"	"	"	.....	"	"	..	M	23	Face and body burned; gas broke from side of furnace.
539	Apr.	4....	"	"	"	.....	"	"	..	M	....	Finger lacerated; pushing buggy, jammed.
540	"	5....	"	"	"	.....	"	"	..	M	48	Compound fracture three fingers; putting rail on car, same fell.
541	"	6....	"	"	"	.....	"	"	..	M	22	First finger off, one crushed; lifting crow bar between two cars, got fingers trapped.
542	"	3....	"	"	"	.....	"	"	..	M	....	Foot crushed; scrap rail fell off track.
543	"	5....	"	"	"	.....	"	"	..	M	37	Ankle bruised and strained; caught between cover and eyebeam.
555	"	11....	"	"	"	.....	"	"	..	M	52	Bruised toes; lifting track, jack slipped.
556	Mar.	31....	"	"	"	.....	"	"	..	M	28	Thigh burned; steam from hose.
557	Apr.	10....	"	"	"	.....	"	"	..	M	21	Head cut; jumped on coke conveyor belt, thrown back.
558	"	12....	"	"	"	.....	"	"	..	M	24	Toe hurt; hit toe with rail wrench.
559	"	11....	"	"	"	.....	"	"	..	M	23	Jaw bone fractured; cleaning track, ore from hopper fell on him.
560	"	12....	"	"	"	.....	"	"	..	M	24	Foot crushed; shoved coupling with foot and was caught.
577	"	24....	"	"	"	.....	"	"	..	M	....	*Legs off below knee; fell in front of engine, cars passed over him.
582	"	13....	"	"	"	.....	"	"	..	M	40	Loss of index finger, middle finger almost severed; changing hoist armature, caught in snatch blocks.
583	"	9....	"	"	"	.....	"	"	..	M	22	Clipping brass bushing; piece flew in eye.
601	"	18....	"	"	"	.....	"	"	..	M	....	Thigh and leg burned; on car when pouring metals.

*Fatal.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer.	Place.	Sex of Injured Person	Age	Particulars.
Dist. No. 7						
602	Apr. 17....	Algoma Steel Co.	" " ..	M	....	Eye burned; pulled electric switch, which flashed.
603	" 23....	" " "	" " ..	M	25	Head cut and bruised; replacing car on track, hook on cable broke.
604	" 20....	" " "	" " ..	M	20	Toe bruised; lifting steel channels, one slipped.
605	" 28....	" " "	" " ..	M	29	Toe squeezed; moving reel, foot caught underneath.
609	" 22....	" " "	" " ..	M	....	Two fingers cut; pulling up rails, one turned.
610	" 23...	" " "	" " ..	M	....	Foot bruised; draw bar fell off top of car.
629	" 28...	" " "	" " ..	M	30	Back bruised; crane carrying rider clasp broke, bearing fell.
630	Mar. 17....	" " "	" " ..	M	24	Foot bruised; bar fell on foot.
636	Apr. 15....	" " "	" " ..	M	....	Face and hands burned; sledging cupola, doors came down.
637	" 17...	" " "	" " ..	M	43	Two ribs broken; straightening rail, fell against it.
655	May 1....	" " "	" " ..	M	....	Finger cut; caught between buggy and skull.
656	" 1....	" " "	" " ..	M	20	Arm burned; slipped on door frame.
657	Apr. 30....	" " "	" " ..	M	40	Finger cut; caught between two rails.
678	May 6....	" " "	" " ..	M	....	Head cut; brick fell.
679	Apr. 10....	" " "	" " ..	M	33	Chest and shoulder bruised; fell off plank.
680	May 6....	" " "	" " ..	M	36	Hand bruised, finger cut; carrying brick.
681	" 6....	" " "	" " ..	M	22	Finger crushed; caught between roller and skid.
682	Apr. 2....	" " "	" " ..	M	....	Foot hurt; loading cinder, piece of scrap fell.
695	May 14....	" " "	" " ..	M	20	Hip bruised; loading steel, fell off car.
696	" 9....	" " "	" " ..	M	22	Hand bruised; caught between two rails.
697	" 8....	" " "	" " ..	M	35	Side, back and arms burned; hot metal splashed.
698	" 11....	" " "	" " ..	M	26	Elbow bruised; slipped and fell from scaffold.
699	Apr. 24....	" " "	" " ..	M	....	Burned leg and hand; throwing coal into ladle of steel, clothes caught fire.
712	May 14....	" " "	" " ..	M	25	Cut on head; cutting rivets, piece of rail fell.
713	" 12....	" " "	" " ..	M	25	Finger crushed; caught between rail and roller.
736	" 14....	" " "	" " ..	M	25	Foot hurt; moving rail, end fell on foot.
751	" 17....	" " "	" " ..	M	20	Finger jammed; repairing pump.
752	" 19....	" " "	" " ..	M	....	Arm burned; trolley feeder wire burnt off.
753	" 20....	" " "	" " ..	M	26	Foot bruised; heavy shoe fell on foot.
754	" 17....	" " "	" " ..	M	23	Toe crushed; skid came down on foot.
755	" 22....	" " "	" " ..	M	24	Two fingers bruised; unloading rails.
756	" 22....	" " "	" " ..	M	29	Fingers jammed; picking up hardwood ties, one dropped.
781	" 26....	" " "	" " ..	M	22	Leg hurt; box turned over.
782	" 26....	" " "	" " ..	M	24	Nail off toe; rolling rail in boat, rail fell.
814	" 28....	" " "	" " ..	M	23	Leg broken; rail slipped from tongs.
816	" 29....	" " "	" " ..	M	28	Finger bruised; caught in ore bucket.

815	"	27....	"	"	"	.....	"	"	..	M	.... Lip cut; dumping car of stone, wrench slipped.
817	"	30....	"	"	"	.....	"	"	..	M	19 Chipping rails, piece of steel flew into eye.
818	June	4....	"	"	"	.....	"	"	..	M	16 Big toe bruised; removing cast iron plate from core oven.
819	"	3....	"	"	"	.....	"	"	..	M	25 Toe crushed; roller rolled it.
820	"	2....	"	"	"	.....	"	"	..	M	28 Toes cut; unloading billets, piece separating billets fell on foot.
821	"	14....	"	"	"	.....	"	"	..	M	.... Hand burned; repairing transfer track, wrench slipped, hand struck live rail.
822	"	1....	"	"	"	.....	"	"	..	M	38 Toes broken; foot caught between bulkhead and rail.
823	May	29....	"	"	"	.....	"	"	..	M	.... Hit finger with sledge; fixing up to drop cupola.
824	"	30....	"	"	"	.....	"	"	..	M	26 Toe hurt; rail in boat rolled on toe.
825	"	28....	"	"	"	.....	"	"	..	M	.... Toes and instep bruised; removing knuckle from coupler, dropped same on foot.
826	Apr.	24....	"	"	"	.....	"	"	..	M	.... Burns; pouring spiegel into vessel; it splashed on back.
827	May	30....	"	"	"	.....	"	"	..	M	.... Foot crushed; pushing buggy of scrap to cupola, scrap fell off hitting him on foot.
843	June	4....	"	"	"	.....	"	"	..	M	.... Stepped on nail, ran into right foot.
844	"	4....	"	"	"	.....	"	"	..	M	21 Finger broken; piling spiegel, piece fell.
845	"	5....	"	"	"	.....	"	"	..	M	14 Shaken up; slipped down bank.
846	Apr.	19....	"	"	"	.....	"	"	..	M	.... Arm burned; pouring steel.
860	May	29....	"	"	"	.....	"	"	..	M	30 Knee sprained; foot caught in iron on dock, twisted knee joint.
861	June	5....	"	"	"	.....	"	"	..	M	46 Face and hands burned; working under collector, main valve was turned on, liquor ran over face, etc.
862	"	7....	"	"	"	.....	"	"	..	M	.... Foot bruised; piling brick, fell into slag pot.
863	"	8....	"	"	"	.....	"	"	..	M	.... Wrist dislocated; slipped and fell on deck of boat.
864	"	12....	"	"	"	.....	"	"	..	M	.... Foot bruised; pipe fell from top of furnace.
865	June	6....	"	"	"	.....	"	"	..	M	.... Two fingers off; rail rolled on hand.
866	"	10....	"	"	"	.....	"	"	..	M	.... Foot burned; bolt jumped out of spiegel cupola.
867	"	5....	"	"	"	.....	"	"	..	M	20 Finger crushed between wrench and bed of machine; tightening set screw, machine was in motion.
879	"	19....	"	"	"	.....	"	"	..	M	.... Abrasion of wrist; piece of rock slipped from hands.
880	"	5....	"	"	"	.....	"	"	..	M	54 Bruised about hip; struck by dinkey.
906	"	19....	"	"	"	.....	"	"	..	M	46 Severe blow on head; hook of chain on crane slipped.
907	"	....	"	"	"	.....	"	"	..	M	.... End of finger crushed; unloading ore.
908	"	17....	"	"	"	.....	"	"	..	M	.... Foot crushed; spiegel car ran over foot.
909	"	14....	"	"	"	.....	"	"	..	M	20 Foot bruised; missed footboard on dinkey engine.
910	"	10....	"	"	"	.....	"	"	..	M	23 Hands burned; getting gasoline from launch, light fell down, caught fire.
911	"	15....	"	"	"	.....	"	"	..	M	.... Finger crushed; chain on cinder pot fell.
912	Apr.	18....	"	"	"	.....	"	"	..	M	.... Hand burned; scraping vessels.
913	June	16....	"	"	"	.....	"	"	..	M	.... Strained back lifting rail box.
937	"	24....	"	"	"	.....	"	"	..	M	.... Hips and legs injured; repairing cable, bucket fell over.
938	"	12....	"	"	"	.....	"	"	..	M	.... Hand and wrist jammed; taking scrap off steel crane, caught under journal of ladle.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer.	Place.	Sex of Injured Person	Age	Particulars.
Dist. No. 7						
939	June 20....	Algoma Steel Co.	Sault Ste. Marie..	M	....	Shoulder and arm hurt; fell from vessel floor.
940	" 23....	" " "	" " ..	M	....	Chest bruised; loading skull on truck, struck by bar.
941	" 10....	" " "	" " ..	M	33	Foot crushed; casting fell.
977	" 29....	" " "	" " ..	M	....	Crushed finger between two rails.
978	" 17....	" " "	" " ..	M	....	Foot bruised; loading cars, car doors fell.
1016	July 10....	" " "	" " ..	M	....	*Died from effects of sulphuric acid; working in tank.
1019	" 7....	" " "	" " ..	M	43	Eye burned by spark; taking rail ends from hot saw.
1020	" 4....	" " "	" " ..	M	....	Cleaning checker chamber; overcome by heat.
1021	" 4....	" " "	" " ..	M	....	Cleaning checker chamber; overcome by heat.
1022	June 23....	" " "	" " ..	M	42	Finger bone broken; dumping battleship of coke, wrench slipped.
1023	July 3....	" " "	" " ..	M	22	Leg and arm burned; pulling test from saw, fell on hot rail.
1024	" 7....	" " "	" " ..	M	....	Smashed finger; lifting piece of rail.
1025	" 4....	" " "	" " ..	M	19	Bruised and cut hand; caught between two rails.
1028	" 11....	" " "	" " ..	M	30	Leg bruised, arm cut; thrown against side of steam hammer.
1054	" 5....	" " "	" " ..	M	30	Foot burned; coupling mould car, metal splashed.
1055	" 16....	" " "	" " ..	M	23	Bruised ankle; pinned against side of car by swing box.
1056	" 15....	" " "	" " ..	M	28	Bruised ankle; rail fell, dropping load on boat.
1057	" 15....	" " "	" " ..	M	48	Finger crushed; loading rails, got finger between two.
1058	" 8....	" " "	" " ..	M	....	Crushed end of finger; pulling pin with operating lever on curve.
1059	" 8....	" " "	" " ..	M	25	Hands scalded; working on top of door machine at quenching station.
1060	July 10....	" " "	" " ..	M	....	Hand crushed; cleaning scrap from under journal of steel crane.
1061	" 8....	" " "	" "	M	19	Badly scalded; by steam from hot coke.
1062	" 14....	" " "	" " ..	M	....	Back and chest bruised badly; struck by engine.
1082	" 16....	" " "	" " ..	M	25	Bruised foot; loading car, shear butt rolled.
1085	" 20....	" " "	" " ..	M	40	Hand burned; patching regenerator wall, gas ignited.
1086	" 21....	" " "	" " ..	M	....	Arm cut and back bruised; fell off end of car.
1101	" 24....	" " "	" " ..	M	30	Finger end off; coupling cars, caught between two.
1102	" 25....	" " "	" " ..	M	21	Part of finger off; struck with sledge hammer.
1103	" 26....	" " "	" " ..	M	....	Hands and neck burned; repairing transfer car, came in contact with rail.
1104	" 22....	" " "	" "	M	18	Foot bruised; rail dropped off roller.
1111	" 19....	" " "	" " ..	M	22	Face burned; opening door of gas valve, gas blew out.

1112	"	19....	"	"	"	.....	"	"	..	M	27	Face and arms slightly burned; opening door of gas valve, gas blew out.
1123	Aug.	1....	"	"	"	.....	"	"	..	M	....	Eyes burned; pouring iron into mould while damp, it burst.
1124	"	1....	"	"	"	.....	"	"	..	M	....	Eyes burned; pouring iron into mould while damp, burst.
1125	"	2....	"	"	"	.....	"	"	..	M	21	Finger crushed; pulling rail into press, caught between press and rail.
1126	"	4....	"	"	"	.....	"	"	..	M	....	Dislocated wrist; tightening door wrench, fell off engine.
1127	July	30....	"	"	"	.....	"	"	..	M	20	Skin torn and knee bruised; riding on engine, piece of cinder fell off car.
1158	Aug.	9....	"	"	"	.....	"	"	..	M	....	Hand and scalp cut; drive shaft broke, fly wheel struck him.
1159	"	9....	"	"	"	.....	"	"	..	M	31	Leg broken; drive shaft broke, fly wheel fell on leg.
1160	"	6....	"	"	"	.....	"	"	..	M	....	Arm burned; tapping joint in cable, touched live cable.
1161	"	7....	"	"	"	.....	"	"	.	M	....	Hands and face burned by gas.
1192	July	23....	"	"	"	.....	"	"	..	M	....	Foot burned; tapping spiegel.
1193	June	15....	"	"	"	.....	"	"	..	M	....	Finger hurt; poking coal in producer, bar slipped.
1194	Aug.	17....	"	"	"	.....	"	"	..	M	....	Burns on face; fixing mould leak, struck by hot metal.
1195	"	18....	"	"	"	.....	"	"	..	M	....	Severe cut on mouth; working at steam hammer, hit by piece of bar iron.
1196	"	16....	"	"	"	.....	"	"	..	M	....	Burned by acid; opening a cock, nipple broke.
1197	"	16....	"	"	"	.....	"	"	..	M	....	Burns; explosion of slag.
1198	"	16....	"	"	"	.....	"	"	..	M	28	Wrist sprained; fell off scaffold.
1199	"	16....	"	"	"	.....	"	"	..	M	....	Ankle sprained; knocked off scaffold.
1200	"	15....	"	"	"	.....	"	"	..	M	....	Foot bruised; rail fell off roller line.
1201	"	13....	"	"	"	.....	"	"	..	M	46	Foot crushed; turning billet, caught between manipulator and cylinder.
1237	"	19....	"	"	"	.....	"	"	..	M	19	Sprained ankle; bricks fell.
1238	July	21....	"	"	"	.....	"	"	..	M	....	Foot burned; pushing shoot away from tapping hole, molten metal ran out.
1239	Aug.	17....	"	"	"	.....	"	"	..	M	....	Repairing mould leak, hot metal struck him.
1240	"	19....	"	"	"	.....	"	"	..	M	35	Sprained ankle; fell over shear butt.
1241	"	20....	"	"	"	.....	"	"	..	M	37	Finger crushed; caught chain, lifting out tie plate.
1242	"	21....	"	"	"	.....	"	"	.	M	....	Thumb and finger cut on circular saw.
1243	"	10....	"	"	"	.....	"	"	..	M	....	Hand burned; electric wire grounded.
1244	"	23....	"	"	"	.....	"	"	..	M	36	Thumb crushed; loading rails, caught between two.
1276	"	9....	"	"	"	.....	"	"	..	M	45	Hand crushed; fell, lifting machinery.
1277	Sep.	2....	"	"	"	.....	"	"	..	M	33	Rupture; cleaning out under mechanical stoker.
1278	Aug.	29....	"	"	"	.....	"	"	..	M	25	Finger cut; turning rails, wrench slipped.
1279	Sep.	1....	"	"	"	.....	"	"	..	M	24	Ankle sprained; slipped off car.
1291	July	25....	"	"	"	.....	"	"	..	M	....	Arm and back burned; cinder from vessel splashed.
1292	"	9....	"	"	"	.....	"	"	..	M	33	Leg cut; fell on slag.
1293	Aug.	27....	"	"	"	.....	"	"	..	M	....	Foot burned; spiegel splashed.
1307	Sep.	10....	"	"	"	.....	"	"	..	M	....	Foot burned; pouring babbit into bearing.
1319	"	15....	"	"	"	.....	"	"	..	M	....	Burn on arm; cleaning ashes in tunnel.

*Fatal.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer.	Place.	Sex of Injured Person	Age	Particulars.
Dist. No. 7						
1320	Sep. 10....	Algoma Steel Co.	Sault Ste. Marie..	M	34	Bruised finger; caught between rail and roller.
1321	" 12....	" " "	" " ..	M	....	Burned by sparks from vessel; taking slips from laboratory.
1337	" 13...	" " "	" " ..	M	45	Knee injured; repairing machine, struck against trolley.
1338	11....	" " "	" " ..	M	....	Hands and arms burned; screwing nuts on switch board, made ground with angle iron.
1339	" 11....	" " "	" " ..	M	....	Thumb split; driving key into armature.
1345	Aug. 26....	" " "	" " ..	M	38	Bruised fingers; guide fell.
1346	Sep. 2...	" " "	" " ..	M	....	Eye burned.
1347	" 11...	" " "	" " ..	M	....	Piece of steel in eye; grinding on emery wheel.
1348	" 18.	" " "	" " ..	M	26	Wrist cut; rail slipped off pile.
1349	" 22...	" " "	" " ..	M	....	Leg cut; cutting timber, axe slipped.
1350	" 19....	" " "	" " ..	M	26	Knee bruised; machine tipped over.
1351	" 21....	" " "	" " ..	M	27	Rail turned over on foot, bruising it.
1330	" 16....	" " "	" " ..	M	....	Hand burned; starting belt, motor controller burned up.
1369	" 25...	" " "	" " ..	M	....	Foot burned; by molten metal.
1370	" 26....	" " "	" " ..	M	....	Finger jammed; loading scrap.
1371	" 23....	" " "	" " ..	M	21	Foot injured; loading rails, one turned over.
1377	" 28....	" " "	" " ..	M	....	Head cut; hit by falling trolley car.
1387	" 29....	" " "	" " ..	M	....	Fell over hot crop end.
1388	Oct. 2....	" " "	" " ..	M	....	Hand and arm badly burned; gas exploded.
1389	" 2....	" " "	" " ..	M	29	Cuts over eye; cutting stakes, piece caught in saw.
1399	Sep. 30....	" " "	" " ..	M	21	Thumb cut changing shear blades; abscess formed.
1400	Oct. 4....	" " "	" " ..	M	34	Forehead cut; struck governers of engine.
1417	Oct. 12....	" " "	" " ..	M	19	Cut over eye; taking rail end from hot saw, saw broke, piece struck eye.
1418	" 13....	" " "	" " ..	M	....	Infection in wound in foot; sharp piece of steel ran into it.
1419	" 11....	" " "	" " ..	M	22	Hip bruised; squeezed between furnace and bloom buggy.
1420	" 11....	" " "	" " ..	M	35	Burns and bruise; squeezed between furnace and bloom buggy.
1421	" 6....	" " "	" " ..	M	38	Thumb bruised; caught between two rails.
1422	" 2....	" " "	" " ..	M	....	Foot burned; steel splashed on foot.
1423	" 9....	" " "	" " ..	M	....	Finger smashed; loading buggy, piece of iron fell on hand
1438	" 16....	" " "	" " ..	M	....	Finger crushed; loading splice bars; caught in chain and sprocket wheel.
1439	" 16....	" " "	" " ..	M	25	Face and neck burned; slipped on rolls runway, removing scrap.
1440	" 12	" " "	" " ..	M	39	Hand burned.
1441	" 11....	" " "	" " ..	M	....	Piece of foreign substance in eye; chipping casting.

1442	Sep. 30....	" " "	" " ..	M	18	Foot bruised; closing rack car, hit by lever.
1443	Oct. 17....	" " "	" " ..	M	....	Knee cut; slipped and fell on track.
1444	" 17....	" " "	" " ..	M	....	Hand crushed against door, tapping furnace, bleeding rod slipped.
1445	" 17....	" " "	" " ..	M	....	Hand jammed; unloading car of scrap rails, one fell.
854	June 16....	Beardmore & Co.	Acton West	M	....	Three fingers badly cut; operating union splitting machine in beam room.
86	Jan. 18....	Bell Furniture Co.	Southampton ...	M	....	End of finger taken off; operating mortiser.
87	" 17....	" "	" ...	M	....	Tips of two fingers off in rip saw.
49	" 10 ...	Canada Furniture Co	Berlin	M	34	Foot bruised; scaffold collapsed.
124	" 15....	" "	"	M	16	Loss of four fingers, palm torn; hand caught in drum sander.
1376	Sep.	Chesley Woolen Mills	Chesley	M	....	Hand injured; caught in carding machine.
1208	Aug. 21....	Cleveland Trinidad Pav. Co...	Sault Ste. Marie.	M	28	Foot bruised; slipped between head of draw bar and end of car.
1009	June 20....	Crown Furniture Co.	Preston	M	18	Hand cut on saw, loss of portion of two fingers and part of thumb.
513	Apr. 1....	Doon Twines, Ltd.	Doon	M	45	Thigh broken; elevator fell.
1128	July 25....	" "	"	M	20	Legs bruised; falling of machinery which was being moved.
769	May 13....	Electric Meter & Stamping Co.	New Hamburg .	M	47	*Fell from gangway.
148	Jan. 21....	R. Forbes Co.	Hespeler	M	70	Clothing caught by driving belt, thrown and rendered unconscious.
1332	Sep.	"	"	F	15	Bone near wrist fractured; starting up spinning frame, twisted arm.
684	May 16....	Goderich Organ Co.	Goderich	M	19	Thumb caught on band saw.
807	June 11....	" "	"	M	35	Ends of three fingers torn and bruised; removing chip from jointer, hand got into knives.
987	July	" "	"	M	....	Hit on arm by splinter; shaping closet seat, joint gave way.
717	May 17....	Goldie & McCulloch Co.	Galt	M	38	Loss of two fingers; caught in gears on slotter, wiping machine while in motion.
718	" 22....	" "	"	M	35	Portion of three fingers off; removing main bearing cup on engine, bearing fell.
796	June 3....	Goldie & McCulloch	Galt	M	60	Crushed toe; casting fell.
889	" 7....	"	"	M	60	Cut on leg; crowbar slipped.
97	Jan. 21....	"	"	M	65	Piece of steel in eye; cleaning behind shears.
763	May 28....	"	"	M	38	Loss of finger; caught in steam hammer.
768	" 30....	"	"	M	36	Foot badly crushed, bone broken; flywheel overturned.
779	June 2....	"	"	M	28	Toe bruised; struck with crowbar.
982	July 10....	"	"	M	38	Cut on forehead; putting die in punch struck head against plate.
1228	Aug. 20....	"	"	M	27	Fell and dislocated shoulder.
1315	Sep. 22....	"	"	M	50	Broken nose and face lacerated; lathe running too fast.

*Fatal.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer.	Place.	Sex of Injured Person	Age	Particulars.
Dist. No. 7						
1401	Oct. 13....	Goldie & McCulloch.....	Galt.....	M	35	Ankles bruised; storing plates in rack, loose hook caught, causing bottom to slide over.
1404	" 10....	"	"	M	52	Gash on arm; breaking off steel bar on straightening machine.
1117	July 28....	Hilborn Co.	Ayr	M	....	Arm broken in two places; caught on shaft.
599	Apr. 28....	W. A. Kribs	Hespeler ..	M	....	Loss of portion of finger on shaper.
98	Jan. 15....	Krug Furniture Co.	Berlin	M	....	Loss of finger and portion of two others, also first finger cut, on trim saw.
1266	Aug. 27....	Kuntz Brewing Co.	Waterloo ..	M	25	*Electric shock, causing death.
52	Jan. 13....	L. McBrine	Berlin	M	19	Portion of thumb taken off; taking scrap from side of rip saw.
328	Mar. 3....	"	"	M	24	Point of thumb came in contact with moving saw; shoving lumber through.
649	May 9....	"	"	M	19	Tip of thumb came in contact with moving saw; taking lumber off sawtable.
471	Mar. 31....	D. Maxwell & Sons	St. Mary's	M	....	Two fingers bruised and lacerated; tripped hammer.
926	June 24....	" "	"	M	....	Thumb bruised and finger lacerated; operating foot trip hammer.
1232	Sep. 3....	Merchants Rubber Co.	Berlin	M	....	Cuts on head and bone in leg broken; elevator fell.
1233	" 3....	" "	"	M	22	Head and body cut, ankle sprained; elevator dropped.
1234	" 3....	" "	"	M	56	Shock, ankles contused; elevator dropped.
102	Jan. 21....	Metal Shingle & Siding Co...	Preston ...	M	....	Index finger crushed under eccentric press.
341	Mar.	" " ..	" ..	M	....	Top of thumb taken off; working on eccentric press.
620	May	" " ..	" ..	M	....	Thumb off; operating circular saw.
757	" 28....	Newlands & Co.	Galt	F	23	Bone in arm broken; slipped on floor.
170	Jan. 31....	G. V. Oberholtzer	Berlin	M	15	Loss of first finger; operating moulding machine.
1175	Aug. 8....	Geo. Pattinson & Co.	Preston ...	M	38	Tips of three fingers cut off; on shears.
747	May 27....	Preston Furniture Co.	" ...	M	22	Fingers crushed; operating clamping machine, caught in cogs.
1187	Aug. 19....	" "	" ...	M	35	Finger cut; brushing cutting from saw table.
1375	Oct. 6....	" "	" ...	M	....	Two fingers cut on saw.
118	Jan. 29....	Sheldons, Ltd.	Galt	M	....	*Killed at National Steel Co.'s Plant, Hamilton, by coils falling falling on him.
443	Mar. 24....	Stratford Mill Bldg. Co.	Stratford .	M	....	Ankle injured; fell from roof.
53	Jan. 14....	Taylor-Forbes Co.	Guelph	M	....	Foot burned; let ladle of hot iron drop.
66	" 4....	"	"	M	....	Hand cut by piece of steel; blood poisoning.
7	" 3....	"	"	M	....	Foot injured; dropped pig iron.
8	Dec. 31, '12	"	"	.....	....	Blood poisoning; result of scratch.
39	Jan. 11....	"	"	M	....	Finger jammed; cleaning machine, pulled lever over.
141	" 16....	"	"	M	....	Spilt iron on foot.
142	" 20....	"	"	M	....	Ran heavy warehouse truck over foot.
143	" 29....	"	"	M	....	Caught end of two fingers on tin cutting machine.
144	" 30....	"	"	M	....	Stepped on wire, which ran through foot.

224	Feb. 15....	"	"	M	....	Eyes burned by molten metal.
267	" 24....	"	"	M	....	Ribs hurt; horse shied, he fell off wagon.
268	" 24....	"	"	M	....	Fell off wagon.
470	Apr. 1....	"	"	M	....	Foot burned; by iron spilled from ladle.
553	" 18....	"	"	M	....	Finger jammed; slipped, adjusting machine.
554	" 19....	"	"	M	....	Cut forehead; breaking iron.
709	May 19....	"	"	M	....	Cut finger; removing scrap steel from press.
759	" 30....	"	"	M	....	Foot burned; bottom of ladle dropped out.
870	June 20....	"	"	M	....	Top of left thumb severed.
1154	Aug. 15....	"	"	M	....	Foot burned by hot metal.
1211	" 29....	"	"	M	....	Loss of middle finger, others lacerated; placed hand over cutoff saw.
1226	Sep. 3....	"	"	M	....	Tops of four fingers off on jointer.
1390	Oct. 14....	"	"	M	....	Arm burned; stumbled and spilled iron from ladle.
48	Jan. 14....	Victoria Wheel Works	Galt	M	22	Thumb crushed badly; driving rivets, hammer struck thumb.
68	" 23....	" "	"	M	38	Eye injured; struck by flying splinters from wheel breaking.
331	Mar. 8....	" "	"	M	53	Index finger taken off, bones at end of thumb taken out to save it; injured on machine for putting tenon on spokes.
786	June 6....	" "	"	M	22	Cut on thumb; shoving lumber through saw, caught on teeth.
813	" 12....	" "	"	M	46	Foot badly twisted; alighted on round stone, ankle turned over.
1231	Sep. 3....	" "	"	M	55	Leg broken; fell.
830A	June 13....	John Watson Mfg. Co.	Ayr	M	....	Hands, face and neck burned; gas explosion.
830B	" 13....	" "	"	M	....	One hand burned; gas explosion.
830C	" 13....	" "	"	M	....	Couple slight burns; gas explosion.
1118	Aug. 6....	Zimmerman Bros.	Tavistock	M	....	Loss of thumb nail; jammed operating box board squeezer.
Dist. No. 8						
1047	July 16....	Can. Locomotive Co., Ltd....	Kingston ..	M	....	Finger injured; caught in feed gear.
1048	" 18....	" "	" ..	M	....	Hand caught between rocker shaft and tool post.
1130	" 29....	" "	" ..	M	....	Rib broken; fell from scaffold.
1131	Aug. 1....	" "	" ..	M	....	Finger on left hand split.
1189	" 20....	" "	" ..	M	....	Hand crushed; fixing cap in oil cup.
1286	Sep. 9....	" "	" ..	M	....	Eye injured; struck by piece of steel from drill.
1309	" 15....	" "	" ..	M	....	Three fingers broken carrying casting, fell.
1378	Oct. 3....	" "	" ..	M	....	Arm slightly injured; clothes caught in revolving bar.
1381	" 10....	" "	" ..	M	....	Nose cut, wrist sprained; fell from old building.
1455	" 24....	" "	" ..	M	....	Arm cut; hand gouge slipped.
1456	" 24....	" "	" ..	M	....	Leg bruised; planer threw iron block over.
1287	Sep. 12....	City Gas Co. of Oshawa.....	Oshawa ...	M	44	*Killed; explosion of boiler.
1288	" 12....	" "	" ...	M	....	*Killed; explosion of boiler.
1043	July 5....	Consumers' Gas Co.	Toronto ...	M	40	Sprained foot and shoulder; chain falling.
1044	" 9....	"	" ..	M	....	Part of thumb off; oiling conveyors.
1045	" 10....	"	" ..	M	47	Face and neck scalded; packing valve, escaping steam.

*Fatal.

ACCIDENTS FOR THE YEAR 1913.—*Continued.*

Office No.	Date.	Employer.	Place.	Sex of Injured Person	Age	Particulars.
Dist. No. 8						
1046	July 5....	Consumers' Gas Co.....	Toronto....	M	40	Finger crushed; caught in charging machine.
1073	" 19....	"	" ..	M	46	Bruised heel; machine starting.
1074	July 23....	"	" ..	M	40	Crushed fingers; steam in cylinder.
1186	Aug. 21....	"	" ..	M	....	Arm crushed; backing cart against car.
1260	" 25....	"	" ..	M	....	Bone broken in foot; casting fell.
1367	Sep. 27....	"	" ..	M	19	Finger crushed; cleaning jig saw, moved lever with his knee.
1458	Oct. 24....	"	" ..	M	63	Cable on drawing machine broke; leg bruised and burned.
1459	" 23....	"	" ..	M	29	Fingers crushed; doors on coal car opened quickly.
1380	"	Cowan & Britton	Gananoque	M	....	*Feet scalded; slipped into vat of hot water.
943	July 2....	Crossen Car Co.	Cobourg ..	M	60	Gash on cheek; struck by flying chip from cast iron wheel.
512	Apr. 8....	"	" ..	M	70	Sight of eye injured; breaking piece of wood, splinter flew off.
531	" 17....	"	" ..	M	18	Working at drilling machine; sleeve caught on set screw.
837	June 17....	"	" ..	M	25	Gash over left eye; driving key out of die, punch came off handle, striking him.
838	" 6....	"	" ..	M	75	Toes bruised; portable anvil overbalanced.
871	" 18....	"	" ..	M	....	Bones of toes broken; loading lumber, end of sill fell.
929	July 2....	"	" ..	M	45	Gash in forearm; piece of wood flew.
954	June 2....	Davis & Son	Kingston ..	M	....	Loss of four fingers; caught in roll and cylinder of setting machine.
195	Feb. 12....	Dominion Textile Co.	" ..	M	42	Compound fracture of finger and tendons severed, other finger gashed, while cleaning back of cap machine.
95	Jan. 24....	Dominion Toy Mfg. Co.....	Toronto ...	M	....	Loss of index finger ends of both hands.
701	May 20....	Dunlop Tire & Rubber Goods Co.	" ..	M	56	*Scalp wound, fracture of skull; struck by handle of baling machine.
740	" 21....	"	" ..	M	28	Elbow crushed; arm drawn into rollers of cutting machine.
1236	Sep. 10....	"	" ..	M	40	Loss of portion of finger, two others crushed; hand drawn into calender rolls.
1414	Oct. 21....	"	" ..	M	32	Foot crushed and bruised; placed too near revolving brake drum of calender machine.
1275	Sep. 13....	Gibbard Furniture Co.	Napanee ..	M	....	Thumb and two fingers crushed; tailing from automatic jointer.
883	June 17....	Lever Bros.	Toronto ...	M	39	*Fell under hot water drain; back and chest scalded.
1262	Sep. 3....	"	" ..	M	....	Fell from ladder; back and arm hurt.
1289	June 28....	Oriental Textiles, Ltd.	Oshawa ...	F	....	Portion of scalp torn off, top of ear and three fingers crushed; hair caught in set screw of loom.
811	" 11....	Phillips Mfg. Co.	Toronto ...	M	....	Finger cut; came in contact with sand belt, adjusting tension.
1269	Sep. 11....	"	" ..	M	15	Two fingers severed on cutting machine.
1	Jan. 1....	Provincial Steel Co.	Cobourg ..	M	23	Head caught in coupling of mill rolls.
125	" 27....	"	" ..	M	45	Knee bruised badly; slipped from stoker ladder.

258	Feb.	Sheet Metal Products	Toronto ...	M	17	Two fingers crushed on stamping press.
259	"	"	" ..	M	19	Hand crushed on stamping press; had to be amputated.
972	July 11....	"	" ..	M	29	Two fingers crushed by die of stamping press.
973	" 2....	"	" ..	M	21	Three fingers crushed by die of stamping press.
928		"	" ..	M	41	Hands jammed in press while setting die.
1290	Sep. 17....	"	" ..	M	32	Three fingers crushed on stamping press.
1327	" 19....	Smart-Woods, Ltd.		M	25	Hand cut; struck by folder on machine.
1212	Aug. 28....	Standard Ideal Co.	Port Hope	M	30	Compound fracture and disjointing of finger; hook slipped off end of trunion.
395	Feb. 21....	Steel Co. of Canada	Belleville ..	M	25	Loss of eye; piece of steel flew up.
31	Jan. 1....	"	Gananoque	M	....	Loss of two fingers; hammer head came down on fingers.
1191	Aug. 26....	Toronto Plate Glass Importing Co.	Toronto ...	M	35	Wrist severely cut; sheet of glass broke in hands.

*Fatal.

Government
Publications